

BOSS

POCKET
DICTIONARY Vol.6



a sound innovator
BOSS

RAM-1252

A SOUND INNOVATOR—

The Boss theme of product development involves creating new and innovative products—products that are completely different from those currently available. We at Boss want you to create a new and exciting music scene through the use of Boss' compact effect pedals. Because we believe that they can make

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nt involves creating new and innovative y different from those currently available. nd exciting music scene through the a difference.

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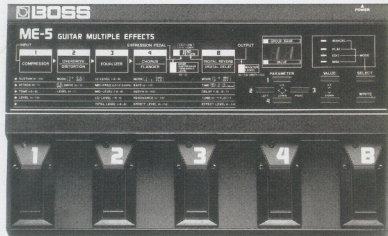
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GUITAR MULTIPLE EFFECTS

ME-5 Guitar Multiple Effects

The ME-5 Guitar Multiple Effects Processor is an achievement that was made possible by utilizing and integrating advanced BOSS technology to create the ideal guitar effects unit. The ME-5's built-in effects include Compressor, Overdrive/Distortion, Equalizer, Chorus/Flanger, and Digital Reverb/Delay. Up to 64 different effect "patches"

can be programmed and stored in the ME-5's memory, each "patch" containing each effect's On/Off setting as well as the parameter settings. Quick program changes can be easily made through the unit's pedals. The ME-5 represents a guitarist's dream come true, combining all the most widely used effects in a versatile, easy-to-use configuration.



SPECIFICATIONS

Built-in Effects: Compressor, Overdrive/Distortion, Equalizer, Chorus/Flanger, Digital Reverb/Delay • Built-in Memory: 64 patches (non-volatile) • Editing: 26 parameters (including effects on/off) • Panel Switches: Parameter x 4, Value x 2, Mode Select, Write, Number x 4, Bank • Indicators: Effect x 8, Parameter x 5, Patch, Value, Mode x 4, Number x 5 • Display: Number • Rear Panel Jacks and Switches: Input, Output A (mono), Output B, Tuner Out, Headphones, Send, Return, Expression Pedal, Manual, Group, MIDI IN, MIDI OUT, Power • Input • Input level: -20dBm

A wide selection of the most popular effects

- The ME-5 incorporates 8 different effects which were carefully selected to allow the guitarist to produce just about any effect desired.
- All the high-quality features of the BOSS professional effect units were carried over into the ME-5. For example, the digital reverb/delay employs 16-bit processing.
- A noise-suppressor function is also built-in to make sure operation is always noise-free.

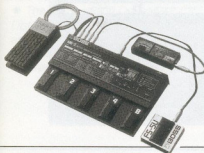
Quick and efficient creation of sounds

- The ME-5's flashing red LEDs indicate those effects that are being

used as well as the parameters that are being set.

MIDI capability means more possibilities

- MIDI In/Out jacks allow the ME-5 to be controlled by an external sequencer for performing automatic program changes, or to control external MIDI effects units. Effects Send and Return jacks are provided for connecting external effects which are not MIDI equipped.
- The Manual mode enables you control effects by assigning On/Off switching for each effect to the foot pedals.
- Connecting the EV-10 expression pedal offers foot-controlled sound volume control.
- The Tuner Out jack enables direct connection of a tuner, and a headphones jack is provided for practicing.
- The use of an FS-5U footswitch allows you to switch between any of 4 Patch Groups, each with 16 patches, or to switch to the Manual mode.



- Input impedance: 1M Ω • Output • Output level: -20dBm (Master level set at 5.0)
- Output impedance: 2k Ω • Output load impedance: 10k Ω or greater • Effect Send
- Output level (rating): -20dBm • Output load impedance: 10k Ω or greater • Effect Return • Input level (rating): -20dBm • Input impedance: 47k Ω • Compressor
- Compression Range: 35dB • Equalizer • High level: ± 15 dB • Middle level: ± 15 dB
- Low level: ± 15 dB • Digital Delay: 16-bit D/A conversion • Delay time: 1 to 500ms
- Frequency response: 30Hz to 10kHz (+0dB, -4dB) • Dimensions: 350(W) x 66(H) x 212(D) mm (13-13/16" x 2-5/8" x 8-3/8") • Weight: 3.0 kg (6 lbs, 10 oz.)

GUITAR MULTIPLE EFFECTS

BE-5 *Guitar Multiple Effects* (with AC Adaptor)

The BE-5 is a Multi-Effects device which combines five popular effects in a single, compact footpedal unit. Providing greater convenience and setup ease onstage, the versatile BE-5 includes five built-in effects which are indispensable for today's guitarists. These include

Compressor, Overdrive/Distortion, Digital Delay, Noise Suppressor and Chorus, and each effect features the same high quality which has made BOSS effect units the choice of top professional musicians the world over. The Multi-Effects BE-5 is an invaluable addition to any guitarist's basic setup.



SPECIFICATIONS

- Controls: • Compressor: Sustain, Attack, Tone, Level • Overdrive/Distortion: Color, Drive, Tone, Level • Digital Delay: Range, Fine, Feedback, Effect Level • Noise Suppressor: Threshold • Chorus: Depth, Rate • Switches: Effect On/Off x 4
- Indicators: Effect On/Off x 4, Power • Jacks Input, Output A (Mono), Output B, Tuner Out, Send, Return • Input: • Level: -20dBm • Impedance: 1M Ω • Tuner Out: • Output Level: -20dBm • Output Impedance: 2k Ω • Output Load Impedance: Over 20k Ω • Effect Send: • Output Level: -20dBm • Output Impedance: 1k Ω • Output

Powerful expressiveness and high performance

- Five effect units are provided, each of which feature the versatile performance and sophisticated sound for which BOSS effects units are renowned.
- The Digital Delay features flat frequency response up to 15kHz, producing a superb sound quality comparable to that of larger models. The Overdrive adds a fat, sweet sound to your natural guitar tone and responds to the nuances of your picking style. The Distortion employs a newly-designed circuit which produces a hard distortion sound while retaining all the nuances of the original sound.
- The Compressor, Overdrive/Distortion, and Digital Delay effects are each equipped with four controls, allowing subtle adjustment for precise control over your sound.

Enhanced versatility

- A newly developed function called Color Control allows Overdrive and Distortion effects to be mixed. New and original overdrive/distortion sounds can be produced as desired.
- When using the Chorus effect, stereo mixing of the direct and modulated signal is possible which allows a more natural and dimensional sound to be obtained.
- The Digital Delay can produce a long delay of up to 1000ms.
- Send/Return jacks are provided for system expansion enabling the connection of other effect units and foot volume pedals.
- A Tuner Out jack allows convenient tuning without the need to switch or disconnect a guitar cable.
- Extraordinarily lightweight, the BE-5 is easy to carry making it convenient both onstage and for studio use.
- A cable clamp is provided to prevent disconnection of the cord during performance.

Load Impedance: Over 10k Ω • Effect Return: • Input Level: -20dBm • Input Impedance: 47k Ω • Digital Delay: Analog logarithmic compression and 12 bit quantizing system • Delay Time: 3.8 to 1000ms • Frequency Response: 20Hz to 15kHz (+1, -3dB) • Residual Noise: Less than -90dBm (IHF-A) • Chorus: • Frequency Response: 30Hz to 13kHz (+1, -3dB) • Residual Noise: Less than -90dBm (IHF-A) • Dimensions: 300(W) x 40(H) x 200(D)mm (11¹³/₁₆" x 1⁹/₁₆" x 7⁷/₈") • Weight: 950g (2 lbs. 2 oz.) • Power: AC Adaptor (PSA Series) • Current Draw: 150mA (Maximum)

GUITAR DRIVER

GL-100 Guitar Driver

The GL-100 is a compact 1U rack-sized preamplifier which offers a selection of tones ranging from smooth and mellow jazz tones to heavy distortion and everything in between. Ideal for live performance use onstage with a guitar amp, direct to a mixing console, or for line-level recording applications, this versatile unit achieves an exceptional level of expressive control. The ability to produce an extensive range of tones with performance flexibility makes the GL-100 an ideal unit for today's diverse musical styles.

Simulating the sound characteristics of renowned guitar amps

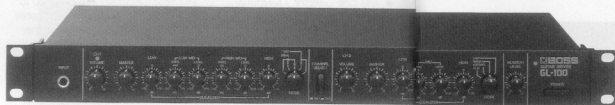
- Through extensive research and analysis of the sound characteristics of a variety of popular large guitar amplifiers, BOSS developed a line driver circuit which has been incorporated into the GL-100 to faithfully simulate these characteristics.
- A switchable speaker simulation circuit produces output similar to the fat, solid sound reproduced by a guitar amp's speakers, even when the GL-100 is connected directly to a mixer.

Two independent channels and nine preset modes

● Two independent channels are provided along with nine preset tone modes that offer a selection of frequently used guitar tones. You can switch between the channels using the front panel or an optional footswitch (FS-5L). Channel 1's Mode control is ideal for soloing with three powerful drive settings capable of reproducing "vintage tube amp" sounds, as well as two types of distortion. Channel 2's Mode control is optimized for rhythm backing with four selectable tones. Equalization and volume settings can be used to further modify the preset tones.

Versatile and Simple to Operate

- Minute sound adjustment is possible via the built-in parametric EQ, with 4-bands for Ch1 and 3-bands for Ch2.
- Equipped with Effect Send/ Stereo Return jacks, as well as Buffer Out, Monitor Out, and XLR Balanced Out jacks.



SPECIFICATIONS

- Controls: • Channel 1: Volume, Master, Equalizer (Lo, Lo-Mid Frequency, Lo-Mid Level, Hi-Mid Frequency, Hi-Mid Level, Hi), Mode • Channel 2: Volume, Master, Equalizer (Lo, Mid Frequency, Mid Level, Hi), Mode, Monitor Output Level • Switches: Channel Select, Power On/Off, Speaker Simulation On/Off (rear) • Indicators: Power, CH1/CH2 • Jacks and Connectors: Input (front), Input (rear), Buffer out, Send out, Return L, Return R, Monitor Output L, Monitor Output R, Output L, Output R, XLR Balanced Out L, XLR Balanced Out R, Channel Select Remote • Input Level: -20dBm • Input Impedance: 1M Ω • Buffer Output Level: -20dBm • Send Output

CHANNEL 1 (FOR LEAD SOLO)

DRIVE I	Orthodox, twin speaker, tube guitar amp sound with comparatively less distortion
DRIVE II	Large, tube guitar amp sound with heavy distortion, popular in Rock and Fusion music
DRIVE III	Three stacked, large tube guitar amp sound, widely used in Heavy Metal music
DIST I	Orthodox distortion
DIST II	Equalized distortion with a "punchy" sound

CHANNEL 2 (FOR RHYTHM BACKING)

FLAT	Sound with completely flat frequency characteristics
CUTTING	A sharp and clear "direct" sound with emphasis on the high frequency range. Each note is delivered with a sharp, cutting edge which cannot easily be reproduced through a normal guitar amp.
DRIVE	Orthodox, twin speaker, tube guitar amp sound with comparatively less distortion
DIST	Orthodox distortion

- Level: -20dBm • Return Level: -20dBm • Monitor Output Level: +4dBm • Output Level: +4dBm • Balanced Output Level: +4dBm • Equalizer Channel 1: • Boost/Cut: ± 20 dB • Lo Frequency: 100Hz (shelving) • Lo-Mid Frequency: 100Hz to 1.6kHz (peaking) • Hi-Mid Frequency: 500Hz to 8kHz (peaking) • Hi Frequency: 8kHz (shelving) • Equalizer Channel 2: • Boost/Cut: ± 20 dB • Lo Frequency: 100Hz (shelving) • Mid Frequency: 250Hz to 4kHz (peaking) • Hi Frequency: 8kHz (shelving) • Dimensions: 480(W) x 44(H) x 233(D)mm (18 $\frac{1}{2}$ " x 1 $\frac{3}{4}$ " x 8 $\frac{1}{2}$ "), 19" 1U Rack-mount size • Weight: 2.6kg (5 lbs. 9 oz.)

31-BAND GRAPHIC EQUALIZER

GE-131 31-Band Graphic Equalizer

The GE-131 is a 31-band graphic equalizer which features professional-level sound quality and versatile functions. Minute sound control over a full one-third octave range from 20Hz to 20kHz is provided, giving you the kind of control that is demanded by professionals in sound reinforcement (PA) and studio applications. Ideally suited for such applications, the versatile GE-131 is also suitable for use with guitars, keyboards

and other musical instruments, and provides a selectable boost/cut range of $\pm 15\text{dB}$ or $\pm 6\text{dB}$ for all bands. The $\pm 6\text{dB}$ range is ideal for the minute adjustment required in sound reinforcement or studio applications, while the $\pm 15\text{dB}$ range allows a coarser adjustment suitable for aggressive equalization of instrument sounds. The powerful GE-131 offers you versatile sound control and exceptional sound quality for any musical application.

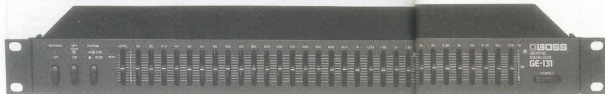
A graphic equalizer featuring uncompromising sound quality comparable to that of professional gear

● Digital technology has greatly enhanced the sound quality of today's musical instruments, studio equipments and sound sources. To accommodate this trend and meet the requirements of today's musical applications, the GE-131 was developed with an emphasis on sound quality comparable to that of professional-use equipment.

- All the components have been strictly selected and thoroughly tested for optimum sound quality.
- To prevent any sound degradation when using the Bypass function, the GE-131's circuit design ensures that the bypassed signal is routed completely outside the internal circuit.
- A High-pass Filter button is provided, allowing an instantaneous cut of all frequencies lower than 40Hz.

Suitable for a wide range of applications including professional

- Both Phone and XLR balanced connectors and provided for input and output, and the GE-131 allows input/output level to be switched between -10dBm and $+4\text{dBm}$ to accommodate the connection of semi-pro and pro.
- A built-in Total Level control facilitates volume adjustment during equalization or when using the bypass function.



SPECIFICATIONS

● Input/Level Switch: $+4\text{dBm}$ / -10dBm , Input Impedance: XLR/10k Ω , Phone/330k Ω , Source Impedance: 600 Ω Gain: Unity, Input Level: <Rated Level> $+4\text{dBm}$ / -10dBm <Non-Clip Level> $+20\text{dBm}$ (7.75V) / $+6\text{dBm}$ (1.55V), Type of Connectors: XLR Connectors, Phone Jack • Output/Level Switch: $+4\text{dBm}$ / -10dBm , Output Impedance: XLR/300 Ω , Phone/600 Ω , Load Impedance: XLR/600 Ω , Phone/10k Ω , Output Level: <Rated Level> $+4\text{dBm}$ (1.23V) / -10dBm (2.45mV) <Non Clip Level> $+20\text{dBm}$ (7.75V) / $+6\text{dBm}$ (1.55V), Type of Connector: XLR Connector, Phone Jack • Residual Noise: Less than -96dBm (IHF-A, Level Control/Equalizer Control: flat, Level Switch: $+4\text{dBm}$) • Maximum Voltage Gain: $\pm 15\text{dB}$ • Equalizer Controls: 31 bands (1/3

octave) • Center Frequency: 20, 25, 31.5, 40, 50, 63, 80, 100, 125, 160, 200, 250, 315, 400, 500, 630, 800, 1k, 1.25k, 1.6k, 2k, 2.5k, 3.15k, 4k, 5k, 6.3k, 8k, 10k, 12.5, 16k, 20k (Hz) • Variable Range: $\pm 15\text{dB}$, $\pm 6\text{dB}$ • Controls: Level, Equalizer • Switches: Power, Bypass, HPF (High Pass Filter) Range, Level • Jacks: Input (Standard phone jack) (XLR Connector) Output (Standard phone jack) (XLR Connector) • Indicators: Bypass, HPF (High Pass Filter), Range, Peak (This will light up 6dB prior to the clipping level), Power • Power: AC 120, 220 or 240V • Power Consumption: 10W • Dimensions: 480(W) $\times$ 44(H) $\times$ 225(D) mm (18-7/8" $\times$ 1-3/4" $\times$ 8-7/8") • Weight: 2.5 kg (5 lb. 8 oz.)

DISTORTION

DS-1 Distortion

The DS-1 Distortion unit electrically clips the waveform of the original sound in order to produce the same distortion and sustain effects as a fully-driven amplifier. All of the nuances of guitar picking can also be correctly produced, rather than the toneless, fuzzy distortion that is created by other distortion units. A built-in Distortion control lets you adjust the degree of distortion so that you can freely create both soft and hard distortion effects. Specially-designed tone control circuitry, that always maintains the perfect balance between the high and low tones, lets you enhance your distortion effects in a variety of ways.



Using the DS-1

- When using the DS-1 with a chorus effect device, we recommend connecting the chorus effect device after the DS-1.
- Gradually turning the Tone control clockwise emphasizes the high-frequency band, creating sharp distortion effects. When doing this, however, be sure to adjust the volume settings on the amp and

guitar in order to prevent them from being excessively driven.

• Fig. 1 shows the setting used to create a soft, mellow distortion sound. When using this setting, the front pickup should be used.

• Fig. 2 shows the setting used to create a slightly harder distortion sound. When using this setting, the rear pickup should be used.



1. Soft distortion setting
2. Hard distortion setting

SPECIFICATIONS

Power: 9V Battery, AC Adaptor (ACA Adaptor) • Current Draw: 9V DC, 4mA
• Input Impedance: 470k Ω • Output Load Impedance: Over 10k Ω • Dimensions:
70(W) x 55(H) x 125(D)mm (2-3/4" x 2-3/16" x 4-15/16") • Weight 400 g (0.88 lbs.)

TURBO DISTORTION

DS-2 TURBO Distortion

The DS-2 Turbo Distortion employs a discrete circuit configuration which greatly reduces the noise produced by conventional distortion units, in addition, it's equipped with two distortion modes to give you instant access to an amazingly wide range of distortion settings. Turbo Mode I produces warm and mellow distortion with flat frequency response.

Turbo Mode II gives you thick, solid-sounding distortion complete with mid-range boost to get that "over-driven tube amp" sound, an absolute essential component of every guitarist's sound today.

The DS-2 is equipped with a remote jack, allowing you to use an external footswitch (like the FS-5L) to instantly switch between distortion mode settings as desired.



Using the DS-2

- The DS-2 is equipped with 2 Modes—Turbo I and II—each of which produce different distortion sounds.
- Turbo I produces distortion that sounds warm and mellow, and with a ruler-flat frequency response. A flat frequency response allows the guitar volume to be turned down without losing highs or making your sound muddy or blurred. Even with distortion set to the maximum in this Mode, the sound stays easy to listen to—you don't get the piercing boosted highs of conventional distortion units.
- Turbo II is a completely different sound—the mids are accentuated to produce hard and solid-sounding distortion.

- Fig. 1 shows Turbo mode II which is particularly suited for lead guitar, providing the thick, rich distortion that results from severely overdriving a big tube amplifier.
- In Fig. 2, a more subtle distortion effect is shown using Turbo mode I with the guitar volume turned down. This is great for fattening up a basically clean lead tone, or for a slightly crunchy rhythm guitar tone (see Fig. 2).
- For instant foot-controlled switching between Turbo I and Turbo II distortion modes, connect an FS-5L footswitch to the Remote jack on the DS-2.



1. Distortion with boosted mid-range for lead guitar applications.
2. Light distortion applications.

SPECIFICATIONS

Power: 9V Battery, AC Adaptor (BOSS PSA Series) • Current Draw: 9V DC, 12mA
• Controls: Distortion, Tone, Level, Turbo I/II • Jacks: Input, Output, Remote, AC Adaptor • Equivalent Input Noise: Less than -120dBm (IHF-A) • Input Impedance: 1M Ω • Output Load Impedance: More than 10k Ω • Dimensions 70(W) x 55(H) x 125(D) mm (2-3/4" x 2-3/16" x 4-15/16") • Weight: 400 g (0.88 lbs.)

SUPER OVER DRIVE

SD-1 SUPER Over Drive

By using to the fullest extent the characteristics of the guitar, the SD-1 Super Over Drive can produce the mellow and mild sounds of a fully-driven tube amplifier without changing the original tonal characteristics. The SD-1 is ideal for increasing the richness of a guitar's sound without losing the subtle nuances of the guitar player's picking and fingering. The SD-1 uses the same basic circuitry as the best-selling OD-1 Over Drive—the world's standard overdrive effect pedal—to produce exciting overdrive sounds without ruining the guitar's original harmonic overtones. The SD-1 is equipped with a Tone control which permits any desired boost or cut in the high-frequency band in order to produce more varied overdrive effects.



Using the SD-1

- Adjusting the Tone control allows you to create a wide variety of sounds, ranging from the DS-1's distortion sounds to the OD-1's overdrive sounds.
- Careful use of the Tone control lets you add attractive overdrive effects to various guitar and amplifier combinations without having to worry about whether they match a particular instrument.
- In order to produce an overdrive sound, care should be taken not to turn the Tone control fully clockwise.
- If a band in the high-frequency

range is boosted too much, it will produce large amounts of distortion when the Drive control is adjusted to higher levels. It is recommended that the Tone control be set at around 3 o'clock (clockwise).

● Fig. 1 shows the setting used to create a soft distortion effect with all the picking nuances.

● Fig. 2 shows the setting used to create a hard distortion effect. This effect was created by setting the Tone and Drive controls at very high levels.



1. Setting for creating a soft distortion effect.
2. Setting for creating a hard distortion effect.

SPECIFICATIONS

- Power: 9V Battery, AC Adaptor (ACA Adaptor) • Current Draw: 9V DC, 4mA • SN Ratio: 80dB • Input Impedance: 470k Ω • Output Load Impedance: Over 10k Ω • Dimensions: 70(W) x 55(H) x 125(D)mm (2-3/4" x 2-3/16" x 4-15/16") • Weight 400 g (0.88 lbs.)

TURBO OVER DRIVE

OD-2 TURBO Over Drive

Adding a new dimension to the usual overdrive effects, the OD-2 Turbo Overdrive creates an ultra-hard distortion effect when the Turbo is switched on—a sound that's just like a turbo-powered car. But even with the Turbo switched on, the OD-2 will let every delicate picking and fingering nuance come through perfectly. Another feature is easily obtainable natural feedback with minimal howling accompanying the feedback. Extremely sensitive discrete circuitry is employed in the OD-2's amplifier section, letting you produce impressive distortion effects while preserving all the original harmonic overtones. This latest and powerful Overdrive from Boss employs 2 different amplifier sections to give you regular overdrive as well as turbo overdrive.



SPECIFICATIONS

Power: 9V Battery, AC Adaptor (Boss ACA Series) • Current Draw: 9V DC, 10mA
• Controls: Overdrive, Level, Tone, Turbo, On/Off • Others: Effect On/Off Select Switch (FET Switching), Effect On/Off and Battery Condition LED Indicator • Jacks: Input, Output, AC Adaptor • Equivalent Input Noise: Less than -118dBm (IHF-A, Tone Control at Center, Input Short-Circuited) • Input Impedance: 1MΩ • Output Load Impedance:

Using the OD-2

- With the Turbo function switched off, Boss's very own mild and soft overdrive effect, the world's standard in overdrive effects, is produced.
- Switching the Turbo on produces a striking overdrive effect like you've never experienced, sounding like a turbo-powered car ready to blow up!
- With the Turbo on, gain is boosted tremendously, making

natural-sounding feedback easy to produce.

• If the Turbo is on, you can achieve full distortion even with single-coil pickup-equipped guitars. Remember to set Drive to a high setting. With this setting, excess distortion could result if guitars with humbucking pickups are used. If this happens, lower the Drive control till a satisfactory sound is achieved.



1. Shows a typical setting for Boss' overdrive effect, as produced by the OD-1 and SD-1.
2. Shows a setting used to create hard distortion even with single-coil pickups. An ideal sound for heavy-metal style guitar.

Over 10kΩ • Dimensions: 70(W) x 55(H) x 125(D)mm (2-3/4" x 2-3/16" x 4-15/16")
• Weight 410 g (14 oz.)

HEAVY METAL

HM-2 Heavy Metal

The HM-2 Heavy Metal effect pedal is a state-of-the-art distortion unit that creates full-bodied distortion sounds while maintaining the nuances of the original tone rather than simply producing excessive distortion. Incorporating a newly-designed hard distortion circuit and an improved version of the OD-1 Over Drive effect pedal's renowned asymmetric over-drive circuitry, the HM-2 features a surprisingly wide dynamic range. Unlike conventional distortion units, the HM-2 does not cause the sound to thin out along with the distortion. The HM-2 also boasts a significantly longer sustain effect than conventional units. Moreover, the HM-2 is equipped with 2 separate tone controls—Color Mix L and Color Mix H—thus allowing the user to create a wide variety of distortion effects as well as the dynamic heavy-metal sound of large amplifiers regardless of what amplifier the HM-2 is used with.



Using the HM-2

- The HM-2 is a completely new distortion effect pedal that is radically different from conventional distortion and fuzz units.
- By effectively adjusting the 2 separate tone controls—Color Mix L and Color Mix H—the user can create a wide variety of heavy-metal effects.
- The Color Mix H tone control incorporates a variety of innovative circuits that allow the user to create the sounds appropriate for heavy-metal music.

● Even when using a low-output amplifier, the dynamic distortion sound of a large-size amp can be created.

● Fig. 1 shows the setting used to create heavy distortion that emphasizes the low frequency range. This setting is ideal for lead guitars that feature picking harmonics or heavy riffs.

● Fig. 2 shows the setting used to create a metallic sound that is effective for the feedback (rendition) or tricky arm-playing.



1. Setting used to create the heavy-metal sound.
2. Setting used to create a metallic sound.

SPECIFICATIONS

Power: 9V Battery, AC Adaptor (ACA Adaptor) • Current Draw: 9V DC, 10mA
• Input Impedance: 1MΩ • Output Load Impedance: Over 10kΩ • Dimensions:
70(W) × 55(H) × 125(D)mm (2-3/4" × 2-3/16" × 4-15/16") • Weight 400 g (0.88 lbs.)

DIGITAL METALIZER

MZ-2 Digital Metalizer

Designed especially to meet the needs of Heavy Metal and hard rock musicians, the MZ-2 is a new distortion effects unit with built-in digital chorus and doubling to produce the full-bodied, hard-edged distortion and powerful spatial effects very popular in hard rock music today. Incorporating 6 modes and stereo outputs, the MZ-2 can produce straight, no-nonsense distortion which can then be doubled or chorused, producing a wide range of popular hard rock and Heavy Metal effects.



Using the MZ-2

- The MZ-2 is a new type of distortion unit that's optimized for creating Heavy Metal and Hard Rock sounds.
- There are 6 Modes to select from, ranging from straight distortion, distortion plus digital delay doubling effects (3 types depending on delay time differences) to distortion plus digital chorus (2 types depending on the depth of chorus). Each Mode is instantly selectable and Modes can be switched as desired.

- The setting indicated in Fig. 1 is ideal for Heavy Metal solos, combining rich distortion with a short delay.
- Fig. 2 shows how to get a deeper, thicker distortion sound that fills more musical space. These settings combine heavy distortion with a deep chorus effect to give you a "three-dimensional" sound using the stereo outputs.
- To intensify the sound when playing riffs, set the unit to doubling mode II and output the signal through the stereo outs.



1. Typical setting for Heavy Metal solos
2. Setting for creating a deep, "three-dimensional," distortion effect.

SPECIFICATIONS

Power: 9V Battery AC adaptor (BOSS PSA Series) • Current Draw: 9V DC, 70mA
 • Controls: Drive, Tone, Level, Mode • Jacks: Input, Outputs A/B, AC Adaptor
 • Equivalent input noise: Less than -120dBm (IHF-A) • Input impedance: 1MΩ
 • Output load Impedance: More than 10kΩ • Dimensions: 70(W) x 55(H) x 125(D) mm
 (2-3/4" x 2-3/16" x 4-15/16") • Weight: 450 g (0.99 lbs.)

SUPER FEEDBACKER & DISTORTION

DF-2 SUPER Feedbacker & Distortion

Feedback effects that bring to mind stacks of huge amplifiers can now be enjoyed with any size amplifier with the DF-2 that contains hard distortion circuitry for creating dynamic effects. Just as important, the DF-2 lets you perfect innovative fingering techniques to produce feedback sounds. This is something many guitarists have long wished for and now it is a reality. Just depress the pedal: Feedback sounds are sustained for as long as the pedal stays down, and the sound is clearly natural, with all the harmonic overtones. The newly-developed 2-mode Pedal switch permits selecting as desired between the normal effect, distortion effect and feedback.

For rock musicians, this new effect pedal is a radical innovation, since it lets musicians express musical ideas in a completely new way.



Using the DF-2

- To change the function mode from Normal, Distortion and Feedback, simply depress the pedal.
- The Distortion effect is switched on and off by short-stroke depressing of the pedal.
- Pressing the pedal down further engages the Feedbacker function and the sound lasts as long as the pedal is depressed.

- With the DF-2, feedback effects are easily achieved even with headphone amplifiers, without all the problems of selecting the right type of amplifier or the right settings.
- A built-in Overtone control allows the mixing of overtone components into the sound to produce natural-sounding feedback.



1. Setting used to create the heavy-metal sound.
2. Distortion setting for backing melody.

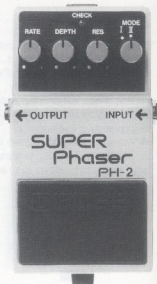
SPECIFICATIONS

- Power: 9V Battery, AC Adaptor (BOSS ACA Series) • Current Draw: 9V DC, 10mA
- Controls: Distortion, Tone, Level, Over Tone • Others: 2-Mode (Effect On/Off and Feedback) Foot Switch LED On/Off and Battery Condition Indicator • Jacks: Input, Output, AC Adaptor • Input impedance: 1M Ω • Output Load Impedance: Over 10k Ω • Dimensions: 70(W) x 55(H) x 125(D)mm (2-3/4" x 2-3/16" x 4-15/16") • Weight 450 g (0.99 lbs.)

SUPER PHASER

PH-2 SUPER Phaser

The PH-2 Super Phaser enables the player to vary the phase of the original sound and to adjust the phase depth as well as allowing sweep speed variance to an extraordinary degree. The Phase Shift mode control allows 12 stages of adjustment for smoother phase shifting and deeper phase effects. The 2 modes give completely different tonal qualities to suit all guitar, bass guitar and keyboard characteristics and provide phase effects of professional quality.



Using the PH-2

- Mode I gives your sound added depth of phase, ranging from the low frequency bands all the way to the high notes with the 10-stage phase-shifting circuitry. This mode will ensure the maximum effect when chord cutting on your guitar.
- Mode II's 12-stage phase-shifting circuitry produces sharp, intense sounds ideally suited for the guitar's muting sounds as well as rhythmic clavinet playing and similar styles.

- Sweep speed variance ranges from 100ms all the way to 14 sec. are adjusted by the Rate control, while deeper-sounding phase effects are possible with the resonance control engineered to adjust feedback. The Depth controls allows notch depth adjustment to create wide-ranging effects ranging from rotary speaker-like effects to harsh jet sounds.



1. Setting for creating Lee Ritenours' favorite backing.
2. Reaggae guitar sound setting

SPECIFICATIONS

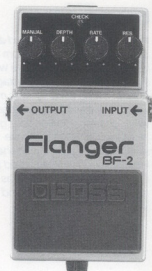
Power: 9V Battery, AC Adaptor (BOSS ACA Series) • Current Draw: 9V DC, 20mA (max.) • Controls: Rate, Depth, Resonance, Mode Select Switch (I/II) • others: Normal/Effect Foot Switch (Silent FET Switching), LED Battery Condition Indicator
• Jacks: Input, Output, AC Adaptor • Phase Shift: 12 Stages (2160°) • LFO Speed: 14 sec. to 100 ms • Residual Noise: Less than -80dBm (IHF-A) • Gain: Unity • Input

Impedance: 1M Ω • Output Load Impedance: Over 10k Ω • Dimensions: 70(W) x 55(H) x 125(D)mm (2-3/4" x 2-3/16" x 4-15/16") • Weight 410 g (0.90 lbs.)

FLANGER

BF-2 *Flanger*

The BF-2 Flanger electronically creates a sound-delay effect and mixes the delayed sound with the original sound to create strong, dynamic sound effects with a wide variation of tones. Since the delay time is infinitely adjustable between 1msec and 13msec, and the LFO speed from 100msec to 16 sec, a much richer sound can be produced. Full, dynamic jet sounds and chorus sounds can also be produced by adjusting the 4 controls. In addition, the low-voltage BBD ensures both excellent delay characteristics and highly stable operation even when using a 9V battery. And of course, the entire BF-2 flanger unit features a low-noise design.



Using the BF-2

- The BF-2 has a wide control range that allows you to create the sound of a jet, as well as chorus and phaser effects. A good sense of sound-effect creativity is therefore very useful to users of the BF-2.
- Because the BF-2's unique sound has a stronger treble effect, it offers interesting effects for bass guitars.
- The BF-2 can also be effectively

- used with percussion instruments.
- Setting all controls to between 0 and 2 produces effects similar to those of a doubler (double-track).
- Fig. 1 shows the setting used for jet flanging.
- Fig. 2 shows the setting used for creating a metallic flanging sound. The key to this sound is to turn the RES control completely up and to turn the Depth control down to 0.



1. Setting for jet flanging.
2. Setting for metallic flanging.

SPECIFICATIONS

Power: 9V battery, AC Adaptor (ACA Adaptor) • Current Draw: 9V DC, 15mA • LFO (rate) speed: 100ms—16 sec. • Residual noise: -95dBm (IHF-A) • Input impedance: 470kΩ • Output load impedance: Over 10kΩ • Dimensions: 70(W)×55(H)×125(D) mm (2-3/4" × 2-3/16" × 4-15/16") • Weight 400 g (0.88 lbs.)

HI-BAND FLANGER

HF-2 *Hi-Band Flanger*

A definite step up from conventional flangers, Boss' HF-2 Hi-Band Flanger flanges an overtone, one-octave higher than the original note. This results in flanging sound which is bright and clean. It's a speedy, whooshing sound effect that's perfect for guitar back-up of fusion music and synthesized string sounds. The HF-2 is the perfect choice for all those applications where conventional flangers just won't do! With 4 controls, this multi-purpose flanger will let you create the usual repertoire of flanging effects as well as a far-reaching range of tonal shadings.



Using the HF-2

- With its lilting flanging effect, the HF-2 suits fusion guitar and keyboard styles; an area where conventional flangers were unsuitable.
- For fusion guitar playing, chorus-like sounds are produced if the Resonance is lowered. Increase the Rate for vibrato sounds.
- With a synthesizer, using sounds with lots of overtones such as strings, will give you a much richer flanging effect. That's because the HF-2's ability to flange sound one octave higher than the original sound can be fully utilized.

- The key to setting up the HF-2 for optimally enhancing synthesized strings is to set the Rate lower and increase the Depth.
- Fig. 1 shows a sample setting of the HF-2 for use with synthesized strings.
- Increasing Resonance will make the HF-2 produce the typical sonic characteristics of flanging.
- If the Manual control is set a little lower than the midway point as shown in Fig. 2, a flanging effect typical of heavy metal guitars is produced.



1. Setting to be used with synthesized strings.
2. Heavy metal guitar sound setting.

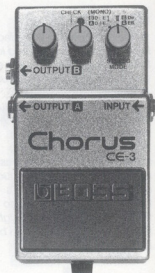
SPECIFICATIONS

Power: 9V Battery, AC Adaptor (BOSS ACA Series) • Current Draw: 9V DC, 18mA (maximum) • Controls: Manual, Depth, Rate, Resonance • Jacks: Input, Output, AC Adaptor • Delay time: 0.5 to 6.5ms • LFO speed: 100ms to 15s • Residual noise: -95dBm (1HF-A) • Input Impedance: 470kΩ • Output Load Impedance: Over 10kΩ • Dimensions: 70(W) x 55(H) x 125(D)mm (2-3/4" x 2-3/16" x 4-15/16") • Weight 400 g (14 oz.)

CHORUS

CE-3 Chorus

The CE-3 Chorus electronically creates fine deviations in pitch which can be overlaid onto the original sound to produce a soft, full sound, as if 2 sounds were being created at the same time. This outstanding effect is widely used for guitars and keyboards in solo performances and chord backings. The CE-3 can create a stereo effect from a mono signal input by means of the A and B outputs, and incorporates both Delay Rate and Depth controls, as well as a switch for selecting the stereo mode.



Using the CE-3

- In order to make optimum use of the CE-3, it is important to fully understand how the Stereo Mode control works.
- In Mode I, the signal at the A output jack is a combination of the direct signal plus a positive-phase effect signal (direct + effect), while the signal at the B output jack is a combination of the direct signal plus a reverse-polarity effect signal (direct - effect). The two outputs can be further combined and sent separately to two amps in order to create a true, wide stage stereo chorus sound with a lush, swirling and deep effect.

- In Mode II, only the effect signal is sent to the A output jack, and the B output jack receives no effect signal at all. This is the same configuration found on the original CE-1 and on Roland's well-known Jazz Chorus Amplifiers.
- When using the monoaural setting, set the Stereo Mode control to Mode I.
- Fig. 1 shows the setting used for creating a conventional chorus effect.
- Fig. 2 shows the setting used for creating a vibrato chorus effect. In this setting, the Rate control is set at the highest position.



1. Conventional chorus effect
2. Vibrato chorus effect

SPECIFICATIONS

Power: 9V Battery, AC Adaptor (ACA Adaptor) • Current Draw: 9V DC, 13mA • SN ratio: Over 90dB (100Hz) • Maximum input level: 0dBm (100Hz), -10dBm (1kHz) • Input impedance: 1MΩ • Output load impedance: Over 10kΩ • Dimensions: 70(W) x 55(H) x 125(D)mm (2-3/4" x 2-3/16" x 4-15/16") • Weight 400 g (0.88 lbs.)

CHORUS

CE-2 Chorus

The CE-2 provides a soft, thick resonance by combining the direct sound with modulated sound that has a subtle, electronically produced lag in the phase timing. This appealing effect is used in a broad range of performance styles from solo to chord accompaniment. The basic circuit of the CE-2 was developed based on that of the CE-1, the world's chorus bestseller, and provides a fantastic array of sounds.

- Adding subtle presence to an entire performance as well as thickness and dimension for a highly "effected" sound, the CE-2 is popular among a broad range of players including guitarists, bassists and keyboardists.
- Rate and Depth controls are provided, allowing the speed and depth of the effect to be controlled as desired. A wide variety of sounds ranging from a standard chorus sound to a sound closer to a vibrato effect can be easily obtained.



SPECIFICATIONS

Power: 9V Battery, AC Adaptor (ACA Series) • Current Requirements: 9V DC, 9mA
 • Controls: Rate, Depth • Jack: Input, Output, AC Adaptor • SN: Over 90dB (IHF-A)
 • Maximum Input Level, 0dBm (100Hz), -10dBm (1kHz) • Input Impedance: 470kΩ
 • Output Load Impedance: Over 10kΩ or more • Dimensions: 70(W) × 55(H) × 125(D)mm (2-3/4" × 2-3/16" × 4-15/16") • Weight: 400 g (0.88 lbs.)

SUPER CHORUS

CH-1 Super Chorus

The CH-1 is a new generation of BOSS's CE-Series Chorus effect units, units which have been highly acclaimed by the world's top professional musicians. Combining the accumulated technology from the CE Series with refined functions and an emphasis on sound quality, the new CH-1 produces a crisp and brilliant sound with maximum clarity even at the high frequency range.

- The CH-1 produces a wide variety of chorus effects ranging from the mild, warm sound of the renowned CE-1, to a sharp, distinctive sound covering the entire high frequency range and which is particularly suitable for cutting rhythm and an erpeggio play.
- The CH-1's chorus effect is produced by mixing the direct sound on one side of the stereo soundfield and the modulated sound on the other side. This process provides a more natural and dimensional effect than that of conventional chorus effect units.



SPECIFICATIONS

• Power: 9V Battery, AC Adaptor (PSA Adaptor) • Current Draw: 9V DC, 15mA
 • Controls: Effect Level, Equalizer, Modulation Rate, Modulation Depth • Jacks: Input, Output A, Output B, AC Adaptor • Residual Noise: Less than -95dB (IHF-A) with EQ set to the center position • Input Impedance: 1MΩ • Output Load Impedance: Over 10kΩ • Dimensions: 70(W) × 55(H) × 125(D) mm (2-3/4" × 2-3/16" × 4-15/16") • Weight: 400 g (0.88 lbs.)

OCTAVE

OC-2 Octave

The OC-2 Octave produces 3 separate tones—the original tone, the original tone dropped by one octave, and the original tone dropped by 2 octaves. By mixing these 3 separate tones at any desired level, the user can not only play octaves, but also create a thick wall of sound with a single guitar, thanks to the OC-2's unique 3-octave unison characteristics. The compact OC-2 incorporates state-of-the-art circuitry, including an SAF circuit that correctly samples only the basic waveform of the original tone, plus a high-speed phase inversion amplifier that chooses the correct octave, and a series of tone compensation filters that create a natural waveform. As a result, the OC-2 can effectively produce octaves of the correct pitch and with natural envelopes.

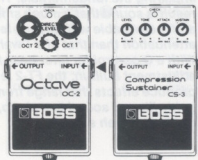


Using the OC-2

- The key to effective use of the OC-2 Octave lies in properly balancing the volume of the 3 tones—the original tone, and the 1-octave lower and 2-octave lower tones.
- The tone that has been dropped by 2 octaves is ideal for adding depth to the original tone. Since the sound is likely to become less clear, however, this

lower tone should be carefully balanced with the original tone.

- A flanger and a phaser may be used together with the OC-2 in order to make the lower octave tones clearer.
- As shown in Fig. 1, a compressor can also be added in order to obtain more stable octave tones.



Linking the OC-2 Octave with the CS-3 Compressor in order to obtain more stable octave tones.

SPECIFICATIONS

Power: 9V Battery, AC Adaptor (ACA Adaptor) • Current Draw: 9V DC, 4mA • Maximum input level: -5dBm • Maximum output level 0dBm • Input impedance: 1MΩ • Output load impedance: Over 10kΩ • Minimum operating input level: -60dBm (at 250Hz) • Equivalent input noise: -100dBm (IHF-A) • Dimensions: 70(W) x 55(H) x 125(D)mm (2-3/4" x 2-3/16" x 4-15/16") • Weight 400 g (0.88 lbs.)

DYNAMIC FILTER

FT-2 Dynamic Filter

With the basic sound of a conventional wah-applied effect, the FT-2 Dynamic Filter makes a much more exciting sound possible through its Cut Off Frequency control that sets the center frequency where the effect occurs. Along with the Up/Down modes, a Manual mode is incorporated, letting the FT-2 perform as an equalizer for creating distinctive sound effects. With a Roland EV-5 expression pedal linked to the Exp In jack, the FT-2 takes on an active role as a wah pedal. A newly-developed envelope detection circuit only affects the harmonics without impairing the fundamentals. The result is sound that's much smoother and more stable without any level attenuation than that of a T wah. With a Q control for filter peak level adjustment built-in, the FT-2 lets you produce effects that range from a softly filtered sound to a sharp, distinctive wah sound.



Using the FT-2

- The Cut Off Frequency control is the secret to creating many effects with the FT-2.
- Setting the Mode Selector to the Dynamic Mode (Fig. 1), makes the FT-2 function as an auto wah unit that varies cut-off frequency according to picking force.
- Choose between UP (frequency goes up as the input level increases) and DOWN (frequency goes down as the input level increases).

- In the Manual/Exp mode (Fig. 2), the cut-off frequency is stable during picking so the filter frequency band can be varied with the cut-off frequency for equalizer-type use.
- Connecting an EV-5 to the Exp In jack while in the Manual/Exp mode transforms the FT-2 into an effective wah pedal.



1. For auto wah use.
2. For use as an equalizer.

SPECIFICATIONS

Power: 9V Battery, AC Adaptor (BOSS ACA Series) • Current Draw: 9V DC, 16mA • Controls: Sens, Cutoff Frequency, Q control • Jacks: Input, Expression in, Output, AC Adaptor • Residual Noise: -85dBm (1HF-A) • Input impedance: 1MΩ • Output load impedance: Over 10kΩ • Dimensions: 70(W) × 55(H) × 125(D) mm (2-3/4" × 2-3/16" × 4-15/16") • Weight: 400 g (0.88 lbs.)

DIGITAL DELAY

DD-3 Digital Delay

The DD-3 compact digital delay employs the same 12-bit system found in more sophisticated, rack-mountable digital delays. The DD-3 also features a wide, variable delay time range from 12.5msec all the way up to 800msec—wider than that of any analog delay on the market today—plus an excellent frequency response that is flat over the entire 40Hz to 7kHz range. A unique hold function and two stereo outputs are also included, adding up to an effect pedal that musicians everywhere have been waiting for. The DD-3—creating new dimensions in sound reproduction.



Using the DD-3

- Due to the wide 12.5msec to 800msec variable delay time range and the +1, -3dB frequency response over the entire 40Hz to 7kHz range, the DD-3 can produce a crystal clear delay sound, making it ideal not only for live performances but also for studio recording sessions.
- The desired hold effects can be produced within a range of 200msec to 800msec. By using the unswitch function, the hold effect will continue for as long as the pedal is pressed. For example, by setting the delay time at the tempo of the song to be played, you can take advantage of the DD-3's effects while

you are pausing, letting you develop your own unique ways of effectively using the DD-3 during ensemble performances.

- The DD-3's 3-stage (S/M/L) Delay Mode selector and find-adjustment Delay Time control work together to let you perform extremely precise adjustment of the delay time.

- Unlike analog delay units, the DD-3 can cleanly create such delay effects as repeat-echo and doubler effects.

- Two stereo outputs let you produce richer-sounding effects.



1. Tape echo-like delay setting
2. Conventional short-delay setting

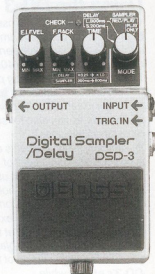
SPECIFICATIONS

- Power: 9V Battery, AC Adaptor (PSA Adaptor) • Current Draw: 9V DC, 4mA (the D Time control at center) • Type of A/D/A converter: 12-bit logarithm compression
- Delay time: 12.5ms (min) to 800ms (max) • Residual noise: -95dBm (IHF-A)
 - Input impedance: 1MΩ (FET input) • Output load impedance: Over 10kΩ
 - Dimensions: 70(W) × 55(H) × 125(D)mm (2-3/4" × 2-3/16" × 4-15/16")
 - Weight 450 g (0.99 lbs.)

DIGITAL SAMPLER/DELAY

DSD-3 Digital Sampler/Delay

Digital sampling and digital delay in one cost-effective package, attractively priced to bring sophisticated effect techniques to every musician. Superior sound quality and a high standard of performance is assured with the 12-bit A/D/A converter. With two modes (Rec/Play and Play), the DSD-3 allows the creative musician to add virtually any sound component to the music; from human voices and sounds of various instruments to animal sounds, auto engines and breaking glass. The recorded sample sound can be played back by depressing the pedal or by feeding a signal triggered externally into the DSD-3. Another interesting use is as an external sound source for rhythm machines. In this manner, the DSD-3's sample sound will be synchronized with the rhythm.



Using the DSD-3

- If used as a delay, delay time is continuously variable between 50ms and 200ms in the S mode, and from 200ms to 800ms in the L mode. The built-in Feedback control sets the number of repeats of the delayed sound as you desire, while the 12-bit A/D/A converter makes sure all the sounds are crystal clear.
- Used as a sampling machine, 2 modes are available, the Play and Rec/Play.
- In the Play mode, a recorded sample sound can be recalled whenever the pedal is depressed,

or when an external trigger signal is fed to the DSD-3.

- In the Rec/Play mode, a new sound can be recorded while a previously recorded sound is being replayed. Recording and replay is achieved simultaneously while the pedal is depressed.
- If the Feedback control is set to its maximum, repeated overdubbing is possible.
- The pitch of replay can be varied with the Time control.

* To record a desired sound into the DSD-3 for effects with the greatest fidelity, first record the sound on a tape recorder.



1. Conventional short-delay setting.
2. Sampler mode setting.

SPECIFICATIONS

Power: 9V Battery, AC Adaptor (PSA Series) • Current Draw: 9V DC, 55mA • PCM System: 12-bit plus analog logarithm compression • Sampling mode: Sampling time (200 to 800ms, variable) Playback time (200 to 800ms, variable) • Delay mode: Delay time (50 to 200ms in S mode, 200 to 800ms in L mode, variable) • Frequency response: 40Hz to 7kHz (± 3 dB) Sample/Delay 10Hz to 60kHz (± 3 dB) Direct

- Residual noise: -95dBm (IHF-A) Effect -100dBm or less (IHF-A) Direct
- Controls: Effect Level, Feedback, Time, Mode • Jacks: Input, Output, Trig In, AC Adaptor • Gain: Unity • Input Impedance: 1M Ω • Output Load Impedance: Over 10k Ω
- Dimensions: 70(W) x 55(H) x 125(D)mm (2-3/4" x 2-3/16" x 4-15/16")
- Weight 400 g (0.88 lbs.)

DIGITAL DIMENSION

DC-3 Digital Dimension

The DC-3 Digital Dimension is a new dimension effects unit which is totally digital, giving you clear, high quality dimensional sounds with perfect two-phase synchronization based on digital modulation. With chorus effects superior to those produced by conventional chorus effects, and which even surpass professional rack-mount units, this fully digital dimension unit provides 4 manual setting controls which let you create and custom-tailor overwhelmingly expansive effects with extremely accurate signal response.



Using the DC-3

● Unlike chorus effects, which and vibrato as you increase the amount of effect on the signal, the DC-3's Digital dimension effect is spacious and natural-sounding with very little wavering, resulting in a more accurate, expansive feel.

● A wide range of dimension effects can be achieved by adjusting the Effect Level, Equalizer, Rate and Depth controls. For chorus effects, change the balance for Rate and Depth.

● Fig. 1 shows the setting for the most often used dimension sound,

which enhances both solo and rhythm playing.

● The setting in Fig. 2 adds distortion, resulting in the thick chorus-type sound or the effect obtained using a harmonizer. This setting is ideal for fattening up a rhythm guitar part over a medium-tempo hard rock piece.

● Please note that the DC-3 must be set after distortion or overdrive effects near the end of the effects chain (like the chorus unit and volume pedal).



1. Setting for standard dimension sound effects.
2. Setting to add distortion to dimension sounds.

SPECIFICATIONS

Power: 9V Battery, AC Adaptor (PSA Series) • Current Draw: 9V DC, 65mA • Controls: Effect Level, Equalizer, Rate, Depth • Jacks: Input, Outputs A and B, AC Adaptor • Sampling Rate: 50kHz • Frequency Response: 20Hz to 20kHz ($\pm \frac{1}{3}$ dB) • Residual Noise: Less than -100dBm (IHF-A) • Input Impedance: 1M Ω • Output Load Impedance: More than 20k Ω • Dimensions: 70(W) x 55(H) x 125(D) mm (2-3/4" x 2-3/16" x 4-15/16") • Weight: 450 g (0.99 lbs.)

DIGITAL PITCH SHIFTER/DELAY

PS-2 Digital Pitch Shifter/Delay

The PS-2 Digital Pitch Shifter/Delay is a multiple effects unit incorporating both a digital pitch shifter and digital delay into one compact case. The PS-2's ultra-high speed pitch shifting circuit virtually eliminates any undesired timing response and signal quality differences between the source sound and the pitch-shifted or delayed sounds. It adds quality pitch-shifted chorus, octave, and a variety of harmony effects to the source signal, and confirmation of the degree of pitch-shift is available through the Tuner Out jack by attaching a suitable chromatic tuner like the TU-12.



Using the PS-2

- The PS-2 allows pitch-shifting over the full range from -1 to +1 octave for creating effects from natural-sounding chorus to harmony as in playing octaves or twin guitars.
- Used for a delay effect, the PS-2 will provide anything from a short delay of 30ms up to a long maximum delay of 2 seconds.
- A 12-string guitar effect is created by using the pitch-shifted chorus effect when playing arpeggios. Fig. 1 shows how to obtain a really thick

sound, by mixing the direct sound with a -1 octave pitch setting. For a thicker and more radical effect, set the feedback control to a higher setting when using a distortion effect on the source signal.

- Get more metallic sound using the +1 octave setting to add a sharper edge to your playing.
- When set to harmonize a 4th as in Fig. 2, the result is a thick, twin-lead effect which really fattens up single line solos.



1. To create a thick sound by blending direct sound with pitch-shift setting of +1 octave.
2. To create a twin-lead sound.

SPECIFICATIONS

Power: 9V Battery, AC Adaptor (PSA Series) • Current Draw: 9V DC, 55mA • Delay Time: 30ms to 2,000ms • Pitch Shift Range: -1 to +1 Octave • Frequency Response: 10Hz to 30kHz, ± 1 dB (Direct), 40Hz to 6kHz, ± 1 dB (Effect) • Residual Noise: Less than -90dBm (IHF-A) • Input Impedance: 1M Ω • Output Load Impedance: Over 10k Ω • Dimensions: 70(W) x 55(H) x 125(D)mm (2-3/4" x 2-3/16" x 4-15/16") • Weight 460 g (1.01 lbs.)

DIGITAL REVERB

RV-2 Digital Reverb (with AC Adaptor)

The RV-2 is a compact, fully digital reverb unit which incorporates advanced Boss proprietary DSP (Digital Signal Processing) LSI technology to achieve sound quality comparable to larger rack-mount models. With six reverb modes including ROOM, HALL x 2, PLATE, GATE and PANNING DELAY, the RV-2 can create virtually any type of reverb effect desired. The built-in pre-equalizer assures optimum signal equalization prior to the reverb circuit, and high quality dimensional effects can be achieved using the stereo outputs.



Using the RV-2

- Although compact, the RV-2 creates powerful reverb effects that are comparable to full-size rack-mount units.
- Mode 1 accurately simulates a room 8m in depth, while Mode 2 provides the sound of room with a 15m of depth. Mode 3 simulates a large halls of more than 30m in depth.
- The setting in Fig. 1 will give you a great big hall effect. Set the unit to Mode 3 and keep the reverb

time slightly long. Plate reverb, often used in studio recording, are instantly accessible by switching to Mode 4.

● Fig. 2 shows a setting in which Mode 5 adds delay that is panned alternately through the left and right sides of the stereo outputs, creating impressive spatial stage effects.

● Mode 6 creates a gated reverb that is tailor-made for today's big drum sounds.



1. Simulating the sound of a large hall.
2. Creating stereo panning delay effects with the RV-2's stereo outputs.

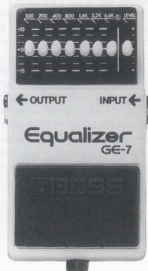
SPECIFICATIONS

Frequency Response: 10Hz ~ 30kHz $\pm$ 1dB (Direct), 30Hz ~ 10kHz + 1dB, -3dB (Effect) • Sampling Rate: 31.25kHz • Residual Noise: -90dBm or less (IHF-A) • Power: AC Adaptor (PSA Series) • Current Draw: 130mA • Controls: Mode Sw, Reverb/Gate Time, Pre-Equalizer Effect Level • Switch: Effect On/Off • Jacks: Input, Output A, B • Dimensions: 70(W) x 55(D) x 125(H) mm (2-3/4" x 2-3/16" x 4-15/16") • Weight: 420 g (0.93 lbs.) • Accessory: AC Adaptor

EQUALIZER

GE-7 Equalizer

The GE-7 Equalizer effect pedal lets you create any desired tone by simply boosting or cutting a particular frequency or frequency range. Noise and howling can also be easily eliminated with a few simple adjustments. The GE-7 features 7 separate bands ranging from 100Hz all the way up to 6.4kHz, with cut and boost by up to $\pm 15\text{dB}$ per band. The seven octave bands are especially useful for cutting out annoying noise in the high-frequency range, and in emphasizing the sharp, high tones of harmonic overtones. And unlike conventional pedal equalizers, the GE-7 incorporates separate amplifiers for both the frequency band control and the sound-effect allowing you to adjust the level control without changing the present equalizing characteristics.



Using the GE-7

- By allowing you to perform boosts and cuts in the high frequency range of 6.4kHz, the GE-7 can be used for a wide range of applications, from creating delicate tones to effectively eliminating noise.
- By using the GE-7 with another effect pedal such as an overdrive or phaser, you can quickly and easily add your own sound preferences to an overdrive tone, or further enhance the sound of a phaser unit.

1. The GE-7 Equalizer is very effective for creating a wide range of unique sounds. For example, when the overdrive unit is used with

a guitar that has single-coil type pickups, a thin sound is produced. To solve this problem, connect the GE-7 and use it to boost the low and medium frequency bands until a fat, rich sound is produced (Fig. 1). On the other hand, for guitars with hum-bucking type pickups, the lower bands should be slightly suppressed.

2. Fig. 2 shows the setting used to prevent howling (feedback). The key to effectively using this setting is to sharply cut only that frequency which contains the howling in order to avoid changing the tone of the overall sound.



1. Setting for creating a fat, rich sound
2. One-point cut to prevent howling

SPECIFICATIONS

Power: 9V Battery, AC Adaptor (ACA Adaptor) • Current Draw: 9V DC, 7mA
• Frequency centers: 100Hz, 200Hz, 400Hz, 800Hz, 1.6kHz, 3.2kHz, 6.4kHz
• Control range: $\pm 15\text{dB}$ • Residual noise: -100dBm (IHF-A) • Input impedance: $470\text{k}\Omega$ • Output load impedance: Over $10\text{k}\Omega$ • Dimensions: $70(\text{W}) \times 55(\text{H}) \times 125(\text{D})\text{mm}$ ($2\frac{3}{4} \times 2\frac{3}{16} \times 4\frac{15}{16}$ " • Weight 450 g (0.99 lbs.)

COMPRESSION SUSTAINER

CS-3 Compression Sustainer

The CS-3 Compression Sustainer produces both compression and sustain effects by compressing high volume input signals and boosting low volume input signals. Designed for outstanding low-noise performance, the CS-3 incorporates an advanced real-time VCA circuit to eliminate distortion, even when a guitar with high-power humbucking pick-ups is used. The VCA lets the CS-3 carry out its compression and sustain functions at a much higher speed, instantly responding to any input and minimizing signal attenuation and fluctuation, and boosting sustain. An Attack control makes full use of the CS-3's instant response, letting each note stand out, even in fast passages. And the built-in equalizer prevents sound from getting muddy satisfying even the player who would not use a compressor due to its unclear sound.



Using the CS-3

- Wide attack time adjustment range makes the CS-3 effective for fast passage notes of clarity without any loss in drive, as well as for slow phrases that make maximum use of sustain.
- The sustain function's wide variable range allows the CS-3 to be used as a limiter (Fig. 1). It is an effect pedal that's also ideal for rhythm guitar and bass. Though a compressor is generally used first

in an effects pedal set-up, when the CS-3 is employed for limiting, it should be used at the end.

- Make sure the sustain is not set to an excessively high setting (Fig. 2), as noise or feedback can be generated.

- Using a compressor will add a refined touch to the sound, and when combined with a chorus effect pedal, the effect is enhanced.



1. When used as a limiter.
2. When used as a compressor.

SPECIFICATIONS

Power: 9V Battery, AC Adaptor (BOSS ACA Series) • Current Draw: 9V DC, 10mA
• Controls: Level, Tone, Attack, Sustain • Jacks: Input, Output, AC Adaptor • Maximum input: 5dBm (1kHz) • Maximum output: -10dBm • Compression range: 38dB
• Equivalent input noise: -110dBm (1HF-A) • Input impedance: 1MΩ • Output load impedance: Over 10kΩ • Dimensions: 70(W) x 55(H) x 125(D) mm (2-3/4" x 2-3/16" x 4-15/16") • Weight: 400 g (0.88 lbs.)

LIMITER

LM-2 *Limiter*

The LM-2 Limiter eliminates unwanted peaks or transients in the input signal that exceed a set threshold level. It does this by only compressing the sharp peaks or transients, preserving the original tonal qualities of your sound while also preventing the distortion caused by an excessive input signal peak. The LM-2 also incorporates a high-performance VCA of a quality normally found only in rack mount units and newly-developed high-speed envelope detection circuitry to ensure outstanding low noise and unobtrusive limiting effects. The LM-2 incorporates a Tone control that helps open up further sound creation possibilities. The LM-2 is exclusively designed for musical instruments and eliminates setting difficulties as encountered with conventional rack mount type machines. Its simple operation makes sure ideal effects are always at hand.



Using the LM-2

- The key to effectively using the LM-2 lies in setting the Threshold and Release controls precisely.
- Higher threshold levels and longer release times sharply cut just the peaks of your instrument's sound, resulting in sound that doesn't deteriorate and creating a natural sound—almost like no

effect is being applied (Fig. 1).

- Fig. 2 shows the setting for an unmistakably "compressed" sound. Threshold set at a lower setting and a shorter Release emphasizes attack.
- Using the Tone control produces a variety of sound creations from sharp to soft.



1. Used as a limiter.
2. For a compressor-like sound.

SPECIFICATIONS

Power: 9V Battery, AC Adaptor (BOSS ACA Series) • Current Draw: 9V DC, 12mA
• Controls: Level, Tone, Release, Threshold • Jacks: Input, Output, AC Adaptor
• Residual noise: Less than -100dBm (IHF-A) • Input impedance: 1M Ω • Output load impedance: More than 10k Ω • Dimensions: 70(W) x 55(H) x 125(D) mm (2-3/4" x 2-3/16" x 4-15/16") • Weight 400 g (0.88 lbs.)

NOISE SUPPRESSOR

NS-2 Noise Suppressor

The NS-2 Noise Suppressor employs an exclusive noise elimination system which maintains the original tonal characteristics of the signal while effectively eliminating the noise build-up which results when plural effects are used. Unlike conventional noise elimination methods, which can adversely affect attack and envelope of the signal, the NS-2 provides ultra-natural noise elimination to give you the cleanest, most accurate sound through even the most complex effects set-ups. The unit is AC powered using an AC adaptor and can supply power to other effects units through a 9V DC Out Jack.

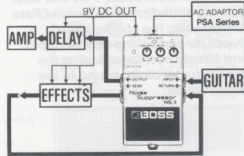


Using the NS-2

- To produce a very natural-sounding release, the NS-2 modifies the amount of expansion depending on the input signal level. This eliminates problems caused by conventional noise gates when sound just disappears, for instance when using feedback.
- The NS-2 is equipped with Send and Return jacks to eliminate threshold fluctuations resulting when the NS-2 is used in conjunction with other effect units. On conventional noise gates, the threshold

would vary as the signal level changed with other effects being switched on/off. Refer to the Fig. for actual the setting.

- Insert effects units which tend to generate noise into the Send and Return loop as indicated in the figure. Please note that Delay effect units should not be inserted in the loop, as they are not generally a source of noise and noise reduction would make the delay sound unnatural. Connect the delay unit to the Output jack.



Settings to achieve natural noise elimination

SPECIFICATIONS

Power: 9V Battery, AC Adaptor (PSA series) • Control: Threshold, Decay • Switches: Mode (Reduction/Mute) Pedal (Effect On/Off, Effect On/Mute On) • LED's Effect On/Off, Mute On, Battery Condition Reduction • Jacks: Input, Output, Send, Return, AC Adaptor In, DC Out • Dimensions: 70(W) × 55(H) × 125(D) mm (2-3/4" × 2-3/16" × 4-15/16") • Weight: 400 g (0.88 lbs.)

BASS CHORUS

CE-2B Bass Chorus

The CE-2B Bass Chorus creates a "chorus" effect by slightly shifting the pitch of the direct sound using a delay element. By mixing the direct and pitch-shifted sound so that they interact with each other, effects like sounds produced from two different sources can be utilized, and a wider and richer bass sound is the result. Since the chorus effect affects just the harmonics of bass sound without affecting the fundamentals, the original sound will not get muddy. While maintaining the bass's characteristic powerful sound and extension, an effective chorus effect can enhance the sound. Built-in controls that help delicate sound creation include Rate for adjusting the chorus speed, Depth for controlling chorus depth, and Effect Level for adjusting the proportion of direct sound to the effect sound.



Using the CE-2B

- Because the bass fundamentals are unaffected, the intensity of the effect, even if set at maximum, will not cause the bass' original power and clarity to deteriorate. The CE-2B provides bass players with the challenge of creating unique bass playing techniques.
- The key to successful sound creation with the CE-2B lies in good use of the Effect Level control.
- Use the Fig. 1 setting shown to produce a strong chorus effect for

bass soloing. Increasing the Effect Level to the maximum lets you to create a clear and wide chorus effect while retaining the original sound's contours.

• The Fig. 2 setting is for a shallower and lighter chorus effect ideal for normal bass lines. Even if the chorus effect is on when playing regular bass lines, there won't be any obnoxious aspects added to your bass sound.



1. Setting for creating an intense chorus effect
2. Setting for creating a light chorus effect

SPECIFICATIONS

Power: 9V Battery, AC Adaptor (ACA Series) • Current Draw: 9V DC, 10mA
 • Controls: Rate, Depth, Effect Level • Jacks: Input, Output, AC Adaptor • Residual noise: Less than -100dBm (IHF-A) • Maximum Input Level: 0dBm (at 100Hz) • Input Impedance: 47k Ω • Output Load Impedance: Over 10k Ω • Dimensions: 70(W) x 55(H) x 125(D)mm (2-3/4" x 2-3/16" x 4-15/16") • Weight 400 g (0.88 lbs.)

BASS FLANGER

BF-2B Bass Flanger

The BF-2B Bass Flanger adds swirling and dynamic effects to your sound, opening up a world of intense tonal color variations. But as in the CE-2B, the bass fundamentals remain untouched with flanging added just to the harmonics. The original bass sound's punch and clarity is not diminished, and distinctive flanging is added to your bass sound for greater musical expression. Featuring a wide 100ms. to 16 second variable LFO rate range, the BF-2B's four controls offer a wide array of flanging effects, ranging from swooshing jet sounds through chorus-like effects and vibrato effects. A Manual control adjusts the delay time, while Depth determines the sweep range. Then use Rate to set the sweep speed and the Resonance control for adjusting the amount of feedback desired. And as with the BF-2, low-noise performance has been engineered into the BF-2B wherever possible.



Using the BF-2B

- Bass fundamentals stay unaffected so the bass' original power and clarity are fully present, even if heavy flanging is used. The BF-2B offers the challenge of creating your own distinctive bass techniques.
- Different combinations of the BF-2B's four controls deliver numerous flanging effect variations.
- The setting illustrated in Fig. 1

produces a powerful jet flanging effect, ideal for heavy metal. The fundamental sound stays unflanged, so a powerful sound composed of flanging plus the original punch and tonal characteristics of bass sound may be enjoyed.

- If the Manual setting is lowered and the Resonance control set to zero, a soft chorus-like effect will result.



1. Jet flanging setting
2. Light chorus-like effect setting

SPECIFICATIONS

Power: 9V Battery, AC Adaptor (ACA Series) • Current Draw: 9V DC, 14mA
• Controls: Manual, Depth, Rate, Resonance • Jacks: Input, Output, AC Adaptor
• Delay time: 0.5 to 6.5ms • LFO Rate: 100ms to 16s • Residual noise: -95dBm (IHF-A) • Input impedance: 470k Ω • Output load impedance: Over 10k Ω
• Dimensions: 70(W) x 55(H) x 125(D)mm (2-3/4" x 2-3/16" x 4-15/16")
• Weight: 400 g (0.88 lbs.)

BASS EQUALIZER

GE-7B Bass Equalizer

Engineered to help you create the most effective bass sound, the GE-7B will equalize any band from the seven specific frequency bands—as low as 62Hz right up to 4kHz. The wide-ranging frequency bands let you precisely tailor the bass guitar's tone color as desired—cutting or boosting any of the frequencies by up to 15dB. Features like these let the GE-7B take a prominent role in everything from producing a distinctive tailored sound to tonal correction and even feedback prevention. The Level control that adjusts the relative proportion of the direct and effect sounds is equipped with two independent amplifiers for frequency band and level uses. This eliminates any adverse effects the level control could have on the already equalized tonal characteristics. The actual quality of the sound receives the highest priority in the GE-7B.



Using the GE-7B

- The bass guitar produces lower frequencies than guitars, even though its high frequencies are as high as a guitar's due to the higher-order harmonics. The GE-7B copes efficiently with such bass sound characteristics by covering those frequency bands (62Hz, 125Hz, 250Hz, 500Hz, 1kHz, 2kHz and 4kHz) most appropriate for bass guitars.

- By boosting 1kHz, the bass sound can be contoured for greater clarity (Fig. 1). Creating a dip at 4kHz really accentuates 1kHz.
- For heavy metal sounds, the Fig. 2 setting is the answer. Boost the 62Hz frequency band and also 4kHz for a heavy and powerful metallic sound.



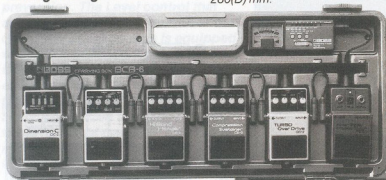
1. Setting for a clear, distinct bass sound
2. Heavy metal setting

SPECIFICATIONS

- Power: 9V battery, AC Adaptor (ACA series) • Current Draw: 9V DC, 16mA
- Equalizer: 7 bands (62Hz, 125Hz, 250Hz, 500Hz, 1kHz, 2kHz, 4kHz), ± 15 dB
 - Level Controls: ± 15 dB • Jacks: Input, Output, AC Adaptor • Residual Noise: Less than -100 dBm (IHF-A) • Input Impedance: 470k Ω • Output Load Impedance: Over 10k Ω • Dimensions: 70(W) x 55(H) x 125(D)mm (2-3/4" x 2-3/16" x 4-15/16")
 - Weight 450 g (0.99 lbs.)

BCB-6 *Carrying Box*

The handsome BCB-6 Carrying Box can store up to 6 compact effect pedals for easy portability. When the lid is opened, the BCB-6 can serve as a highly-functional effect pedal board, thus radically reducing the time necessary for setting up the effect pedals. The BCB-6 is constructed of heavy-duty molded resin for rigidity and light weight.



SPECIFICATIONS

Effect accommodation: 6 units
 • Dimensions: 633(W)×84(H)×280(D) mm (24.9"×3.9"×11.0") • Weight: 2.0 kg (3.5 lbs.) • Accessories: Connection cords

Using the BCB-6 as a Carrying Box

- Stores up to 6 standard, compact-size effect pedals (not limited to Boss effect pedals).
- Heavy-duty molded resin case for lightweight (2.0kg) carrying ease and superior rigidity, specially designed to ensure complete protection of the effect pedals inside.
- Clean, modern external design presents handsome appearance while on the road.
- Compact, easy-to-carry dimensions—633(W)×84(H)×280(D) mm.

Using the BCB-6 as an Effect Pedal Board

- Removing the lid turns the BCB-6 into an effect pedal board that's already set up for any kind of performance.
- Tedious effect pedal set-up is eliminated, as is the messy tangle of wires around your feet during a performance.
- A one-touch effect pedal mounting system requires no tools or remodeling of the effect pedals themselves.
- The effect pedals can be easily removed and replaced with others according to the type of music to be played.
- Connection cords provided for convenient connection of all effect pedals.

PSM-5

Power Supply & Master Switch

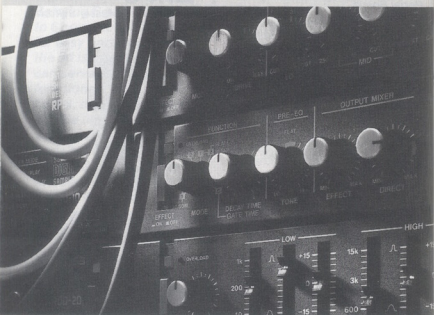


Upgrading the System with the PSM-5

The PSM-5 Power Supply & Master Switch provides the BCB-6 with a comprehensive effect pedal board function.

- The PSM-5 supplies power for up to five 9V effect pedals.
- Simply pressing the pedal permits switching between the effect and normal modes of two or more effect pedals.
- Since the PSM-5 is the same size as a compact effect pedal, it can be stored in the BCB-6 Carrying Box.
- Standard accessories include an AC adaptor and a parallel DC cord for 7 units.

MICRO STUDIO SERIES



Boss' Micro Studio Series used to be described as compact, 1/2 rack size units which featured the high performance of larger, professional-use units. Not any longer.

Today the Micro Studio Series is an integral part of the equipment used by the world's top musicians—onstage and in the studio. They're half-rack sized, but that doesn't mean any compromise in terms of performance, functions, and operational ease. The player actually benefits from the space saved and the affordable prices. You'll find the Micro Studio Series used by professional musicians all over the world.

Size and performance to open up a new sound scene

Measuring just 218mm (8-9/16") in width, 44mm (1-3/4") in height and 160mm (6-5/16") in depth, the Micro Studio Series are almost exactly half the size of conventional rack-mount effects. Every unit in the Micro Studio lineup boasts low noise levels to allow these units to be used for studio work, and every Micro Studio Series unit has the multi-functions and high-performance that will allow professionals to create new and exciting sounds. Modulation busses

and stereo link functions are also incorporated, allowing the musician to perfectly synchronize multiple Micro Studio units to use as a system. The optional RCB-4 carrying case that accommodates 4 units provides a portable and powerful effects system that is also very portable. The Micro Studio Series—for keyboard players, guitarists, bassists, multi-track recording, computer musicians and just about every type of modern musician.

RRV-10 DIGITAL REVERB

Nine reverb modes create appropriate sounds for everything from large halls and small rooms, to gated and reverse reverb. Pre-equalizer plus Input

Cancellation system turns off the effect without abrupt cut-off of the reverb sound. New noise reduction circuitry minimizes noise.



SPECIFICATIONS

Input Level/Input Impedance: -20dBm/1M Ω , -10dBm/47k Ω • Output Level/Output Impedance: -20dBm/2k Ω , -10dBm/2k Ω • Output Load Impedance: Over 10k Ω • Frequency response: 10Hz to 30kHz ± 3 dB (Direct), 30Hz to 10kHz ± 3 dB (Effect) • Sampling Rate: 31.5k Hz • A/D-D/A Conversion System: 12-Bit Converter Plus Logarithm Compression • Residual Noise: Less than -100dBm (1/1000th of 1dB) • Controls: Decay/Gate Time, Pre Equalizer, Effect Level Direct Level • Jacks: Input (Phone, Pin), Output A (Phone, Pin), Output B (Phone, Pin), Effect Remote (On/Off) • Power Source: 9V DC by PSA series AC Adaptor or RPW-7 Power Supply • Dimensions: 218(W) x 44(H) x 169(D)mm (8-9/16" x 1-3/4" x 6-11/16") • Weight: 900 g (2 lb.)

RPS-10

DIGITAL PITCH SHIFTER / DELAY

Single unit combining a digital pitch shifter with a continuously variable pitch shift range of ± 1 octave and a digital delay. Newly-developed LSI enables flat and extended (to 15kHz)

frequency, response plus ultra-high speed pitch conversion. TU-12 Tuner can be connected for confirmation of pitch shift amount.



SPECIFICATIONS

- Input level/Input impedance: -20dBm/1M Ω . -10dBm/47k Ω • Output level/output impedance: -20dBm/2k Ω . -10dBm/2k Ω • Output load impedance: Over 10k Ω • Pitch shift: -1 oct. to +1 oct.
- Delay time: 25ms to 800ms • Frequency response: Direct/10Hz to 30kHz ($\pm \frac{1}{3}$ dB). Pitch shift/delay: 40Hz to 15kHz ($\pm \frac{1}{3}$ dB) • Residual Noise: Less than -90dBm (IHF-A Level Switch, -20dBm) • Controls: Delay range/pitch shift mode, pitch, pitch level/delay time fine, feedback level, mix balance • Switches: Power, effect (On/Off), level (-20dBm -100dBm) • Indicators: Power, effect • Jacks: Input (standard phone, pin), Output (standard phone, pin), Hold (On/Off), Effect remote (On/Off), Tuner out, Keyboard control • Power Source: 9V DC by PSA series AC Adaptor • Current draw: 100mA • Dimensions: 218(W) x 44(H) x 169(D) mm (8-9/16" x 1-3/4" x 6-11/16") • Weight: 900 g (2 lb.)

RDD-20

DIGITAL DELAY

The RDD-20 employs a 12-bit PCM system plus analog logarithm compression for high quality compatible with a 16-bit system. Continuously

variable delay time between 0.75 to 400ms. with flat frequency response up to 15kHz. Also equipped with Delay Tone control.



SPECIFICATIONS

- PCM System: 12-bit plus analog logarithm compression • Delay Timer Controls: Range (1.5, 3, 6, 12.5, 25, 50, 100, 200, 400ms). Fine ($\times 0.5$ to $\times 1$) • Frequency Response: 20Hz to 15kHz ($\pm \frac{1}{3}$ dB)
- Delay, 10Hz to 600kHz ($\pm \frac{1}{3}$ dB) Direct • Modulation Controls: Rate (0.07Hz to 10Hz), Depth
- Feedback Control: Level • Modulation BUS Jack: 1 • Modulation Polarity Switch: 1 • Remote Jack: Effect On/Off • Input Level/Impedance: -20dBm/1M Ω . -10dBm/47k Ω • Output Level: -20dBm, -10dBm • Output Load Impedance: Over 10k Ω • Power Source: 9V DC by PSA series AC Adaptor
- Dimensions: 218(W) x 44(H) x 169(D) mm (8-9/16" x 1-3/4" x 6-11/16") • Weight: 900 g (2 lb.)

RCE-10

DIGITAL CHORUS ENSEMBLE

A 100% digital chorus with a digital modulation circuit and 2-phase chorus circuitry for spacious, impressive chorus effects. A Pre-Delay Time

control allows doubling the chorus effect and a built-in effect equalizer helps create a precisely tailored sound.



SPECIFICATIONS

- Input Level/Input Impedance: -20dBm/1M Ω . -10dBm/47k Ω • Output Level/Output Impedance: -20dBm/2k Ω . -10dBm/2k Ω Output Load Impedance: Over 10k Ω • Sampling Frequency: 50kHz
- Sampling System: 12 bit quantizing system plus analog logarithmic compression • Residual Noise: Below -100dBm (IHF-A, Level Switch: -20dBm) • Controls: Pre delay Time (0.5-35ms), Modulation Rate (0.1-14Hz), Modulation Depth, Effect Equalizer, Effect Level • Switches: Power (On/Off), Effect (On/Off), Level (-20dBm -100dBm) • Indicators: Power, Effect • Jacks: Input (Standard, Pin), Output A (Standard, Pin), Output B (Standard, Pin), Effect Remote (On/Off), AC Adaptor (In/Out) • Power Source 9V DC by PSA Series AC Adaptor • Current Draw 80mA • Dimensions: 218(W) x 44(H) x 169(D)mm (8-9/16" x 1-3/4" x 6-11/16") • Weight: 900 g (2 lb.)

RPD-10

DIGITAL PANNING DELAY

The RPD Digital Panning Delay is a new kind of Digital Delay effects unit, incorporating panning with a long delay of up to 2 seconds. Designed to produce the best sound quality, the RPD-10 has a

frequency response which is ruler-flat from 20Hz up to 15kHz. A stereo chorus function is built-in and for using the RPD-10 as an effects loop for a mixer, a Direct Cancel switch is provided.



SPECIFICATIONS

- Input Level/Input Impedance: -20dBm/1M Ω . -10dBm/47k Ω • Output Level/Output Impedance: -20dBm/2k Ω . -10dBm/2k Ω • Output Load Impedance: Over 10k Ω • A/D/A Conversion System: Analog logarithm compression plus 12 bit converter, Analog logarithm compression plus 8-bit converter (Delay time range at 2s) • Frequency Response: 20Hz to 15kHz (Delay) • Residual Noise: Less than -100dBm (IHF-A, Level Switch: -20dBm) • Power Source: 9V DC by PSA Series AC Adaptor RPD-7 • Current Draw: 9V DC, 100mA • Dimensions: 218(W) x 44(H) x 169(D)mm (8-9/16" x 1-3/4" x 6-11/16") • Weight: 900 g (2 lb.)

ROD-10 OVER DRIVE / DISTORTION

Five independent circuits—three overdrives, distortion and fuzz, along with a 3-band equalizer including a parametric Mid, present countless

sound creation possibilities. Built-in Line Out jack facilitates direct connection to a mixer for stage, studio and many other applications.



SPECIFICATIONS

Input Level/Input Impedance: $-20\text{dBm}/1\text{M}\Omega$ • Output Level/Output Impedance: $-20\text{dBm}/2\text{k}\Omega$ • Output Load Impedance: Over $10\text{k}\Omega$ • Controls: Mode, Drive, Equalizer LO, Equalizer MID Frequency, Equalizer MID Level, Equalizer HI, Output Level • Switches: Power (ON/OFF), Effect (ON/OFF) • Indicators: Power, Effect • Jacks: Input, Output, Line Outputs (Standard, Pin), Effect Remote (ON/OFF), AC Adaptor (IN, OUT) • Power Source: 9V DC by PSA Series AC Adaptor • Current Draw: 50mA • Dimensions: 218(W) x 44(H) x 169(D)mm (8-9/16" x 1-3/4" x 6-11/16") • Weight: 900 g (2 lb)

RCL-10 COMPRESSOR LIMITER

A dynamics processor integrating compressor, limiter, expander and noise gate functions. Key-In jack allows the unit to perform as a de-

esser or to gate echo, and a Stereo Link jack lets you interlock two RCL-10 units. A high-performance VCA guarantees clear, distortion-free sound.



SPECIFICATIONS

Compressor/Limiter/Expander: Ratio 1:1.5 to ∞ :1 continuously variable Threshold -40 to 0dBm (Level switch at -20dBm) Attack Time 0.2ms to 50ms , Release Time 50ms to 2s • Noise Gate: Threshold -40 to -10dBm (Level switch at -20dBm) Output Gain (Effect) -40 to $+14\text{dB}$ • Input Level/Impedance: $-20\text{dBm}/1\text{M}\Omega$, $-10\text{dBm}/47\text{k}\Omega$ • Output Level: -20dBm , -10dBm • Output Load Impedance: Over $10\text{k}\Omega$ • Remote Jack: Effect On/Off • Power Source: 9V DC by PSA series AC Adaptor • Dimensions: 218(W) x 44(H) x 169(D) mm (8-9/16" x 1-3/4" x 6-11/16") • Weight: 900 g (2 lb)

RPQ-10 PREAMP / PARAMETRIC EQ

The RPQ-10 features a built-in pre-amplifier and 2-band (High and Low) parametric equalizer for precise tonal control with a variable boost/cut range

of $\pm 15\text{dB}$ for dynamic and impressive sound effects. Each slider has its own LED.



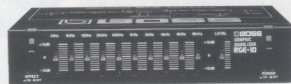
SPECIFICATIONS

Input Level (rated)/input impedance: MIC, $-50\text{dBm}/1\text{k}\Omega$, INST, $-20\text{dBm}/1\text{M}\Omega$, LINE, $-10\text{dBm}/50\text{k}\Omega$ • Output level (rated)/output impedance: Standard phone, $-20\text{dBm}/2\text{k}\Omega$, pin, $-10\text{dBm}/2\text{k}\Omega$ • Output load impedance: More than $10\text{k}\Omega$ • Frequency response (line input): 10Hz to 40kHz ($\pm 0.5\text{dB}$ at flat) • Residual noise: -95dBm (IHF-A at flat) (no input connection, standard jack output) • Center frequency: Low band 40Hz to 1kHz (4.6 oct), high band 600Hz to 15kHz (4.6 oct) • Q: 0.7 to 7 • Variable level range: $\pm 15\text{dB}$ • Controls: Input level/1, frequency/slider volume with LED/2, Q (slider volume with LED/3, level (center click, slider volume with LED/3) • Switches: Power, effect (normal/equalizer) • Jacks: Input jacks (standard phone, MIC, INST/pin; LINE), output jacks (standard phone, pin), effect remote jack (On/Off), AC Adaptor jack (IN, OUT) • Indicators: Power, effect, overload (input), overload (total level, LED flashing system) • Power Source: 9V DC PSA series AC Adaptor • Current draw: 60mA • Dimensions: 218(W) x 44(H) x 167(D) mm (8-9/16" x 1-3/4" x 6-9/16") • Weight: 900 g (2 lb)

RGE-10 GRAPHIC EQUALIZER

For quick and refined tonal compensation, this 10-band equalizer can cut or boost 12dB in each of the 10 octave bands from 31Hz to 16kHz . Each slide

control is provided with an LED indicator for at-a-glance indication of your setting, even on dark stages.



SPECIFICATIONS

Equalization $\pm 12\text{dB}$, 10 sliding controls each with an LED • Level Control: $\pm 12\text{dB}$, Sliding control with an LED • Input Level/Impedance: $-20\text{dBm}/1\text{M}\Omega$, $-10\text{dBm}/47\text{k}\Omega$ • Output Level: -20dBm , -10dBm • Gain: Unity • Output Load Impedance: Over $10\text{k}\Omega$ • Remote Jack: Effect On/Off • Power Source: 9V DC by PSA series AC Adaptor • Dimensions: 218(W) x 44(H) x 160(D) mm (8-9/16" x 1-3/4" x 6-5/16") • Weight: 900 g (2 lb)

RPW-7 POWER SUPPLY

The RPW-7 is for use with Micro Studio Series units, and supplies up to 700mA of 9VDC current. Five DC outputs are provided, allowing the RPW-7 to power more than five Micro Studio

Series units, using each unit's DC IN/OUT. BOSS compact effect pedals that use the PSA adaptor can also be powered by the RPW-7.



SPECIFICATIONS

- Rated output voltage: 9V DC • Output current: 700mA (maximum) • Power switch: 1 • Power indicator: 1 • DC out jacks: 5 • Power: 117/220/240V AC (50/60Hz) • Power consumption: 22VA (maximum)
- Dimensions: 218(W) x 42(H) x 140(D) mm (8-9/16" x 1-5/8" x 5-1/2") • Weight: 1.2 kg (2 lb. 10 oz.)
- Power: 9V DC by PSA series AC Adaptor

FS-5U/5L Foot Switch

Boss Foot Switches suit any performance

Two or more FS-5L (latch type)/FS-5U (unlatch type) Foot Switches can be connected. Both units have Polarity switches to match any equipment, even of opposite polarity. The FS-5L's LED indicator gives at-a-glance indication of effect on/off, and both have phone jacks to allow any cable length.



SPECIFICATIONS

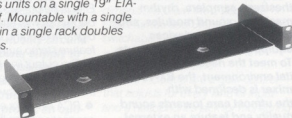
- (FS-5L) • Power: UM-3 x 2 • Current draw: 6mA • Dimensions: 96(W) x 43(H) x 90(D) mm (3-1/4" x 1-3/4" x 3-1/2") • Weight: 240 g (0.52 lbs.) (FS-5U) • Dimensions: 96(W) x 43(H) x 90(D) mm (3-1/4" x 1-3/4" x 3-1/2") • Weight: 230 g (0.5 lbs.)

RACK MOUNT ADAPTOR

RAD-10 Rack Mount Adaptor

For easy mounting to a conventional 19" rack shelf

Specially designed adaptor for mounting two Micro Studio Series units on a single 19" EIA-standard rack shelf. Mountable with a single screw. Two effects in a single rack doubles creative possibilities.



SPECIFICATIONS

- Dimensions: 482(W) x 47(H) x 137(D) mm (19" x 1-7/8" x 5-3/8")
- Weight: 800 g (1 lb. 12 oz.)

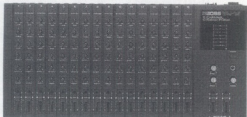


16-CHANNEL STEREO MIXER

BX-16 16-channel Stereo Mixer

The BX-16 16-channel Stereo Mixer is perfect for use with synthesizers, samplers, rhythm machines, sound modules, and other high quality devices equipped with multiple outputs. To meet the needs of today's digital environment, the BX-16 mixer is designed with the utmost care towards sound quality and feature an external power supply system adapted from professional use mixers.

- The BX-16 features two separate Effects Send jacks and two separate Effects Return jacks, making it suitable for use with effects units such as digital reverb and digital delay which feature stereo outputs.
- The output line level may be set to either +4dBm or -10dBm using the output level switch.
- RCA pin jacks enable direct connection to multi-track recorders.
- Each channel includes a built-in Bass/Treble Equalizer, panning, and volume level controls for optimum control over your mix.



SPECIFICATIONS

Controls: Gain x 16, Treble x 16, Bass x 16, Effect 1 Send x 16, Effect 2 Send x 16, Panpot x 16, Channel Fader x 16 • Main Controls: Master Fader x 2, Effect 1 Return x 1, Effect 2 Return x 1, Headphones Level x 1, Output Level Selector Switch x 1, Power Switch x 1 • Jacks: Input x 16, Effect Send x 2, Effect Return x 4 (L/MONO x 2, R x 2), Output (Standard Phone Jack) x 2, Output (Pin Jack) x 2, Headphones x 1 • Indicators: Overload x 16, Pilot Lamp x 1, Level Meter x 2 • Consumption: 12W • Dimensions: 480(W) x 69(H) x 237(D) mm (18-7/8" x 2-11/16" x 9-5/16") • Weight: 2.5 kg (5.5 lbs.)

8-CHANNEL STEREO MIXER

BX-8 8-channel Stereo Mixer

The BX-8 offers all the sound quality and functions of the BX-16 in a more compact format. Although very portable, the BX-8 incorporates high-quality circuits and an external power supply to ensure the highest possible quality of sound is maintained. Even for mixing digital instruments and sounds, the BX-8 proves an optimum choice. The affordably priced BX-8 capably meets the requirements of today's music scene.

- All the sophisticated BX-16 functions are here in the BX-8's compact dimensions: from the 2 separate Effect Sends and Stereo Returns, switchable output level of +4 or -10dBm, to RCA pin jacks and bass/treble equalizers.
- Also included are a gain control that adjusts for every kind of input and a headphones jack for monitoring purposes.



SPECIFICATIONS

Controls: Gain x 8, Treble x 8, Bass x 8, Effect 1 Send x 8, Effect 2 Send x 8, Panpot x 8, Channel Fader x 8 • Main Controls: Master Fader x 2, Effect 1 Return x 1, Effect 2 Return x 1, Headphones Level x 1, Output Level Selector Switch x 1, Power Switch x 1 • Jacks: Input x 8, Effect Send x 2, Effect Return x 4 (L/MONO x 2, R x 2), Output (Standard Phone Jack) x 2, Output (Pin Jack) x 2, Headphones x 1 • Indicators: Overload x 8, Pilot Lamp x 1, Level Meter x 2 • Consumption: 10W • Dimensions: 310(W) x 69(H) x 237(D) mm (12-3/16" x 2-11/16" x 9-5/16") • Weight: 1.6 kg (3.5 lbs.)

STEREO MIXER

BX-80 8-Channel Stereo Mixer

BX series mixers that have specifically been designed to interface with digital instruments and sources.

All the extensive mixing functions usually encountered in large 8-channel mixers are here in one compact unit. Channel gain, separate bass/treble controls, effect send/return, panpot, sliding volume controls, as well as a headphones jack for monitoring—all these and other functions are incorporated in this outstanding mixer. All controls are simply laid-out, letting anyone easily utilize advanced mixing techniques.

BX-60 6-Channel Stereo Mixer

Compact, multi-function, high-performance 6-channel mixer, A 6-channel mixer of compact dimensions but advanced functions, the BX-60 features controls for channel gain, effect send/return, effect volume, panpot and other substantial mixing functions. Its wide variable gain range makes it easy to use the BX-60 as a sub-mixer or monitor mixer. Use of the return jacks turn the BX-60 into an 8-channel mixer. LED indicators complement its superb sound quality.



SPECIFICATIONS

- Controls: Gain x 8, Treble x 8, Bass x 8, Effect volume x 8, Panpot x 8, Channel Fader x 8
- Main controls: Master Fader x 2 (right x 1, left x 1), Effect volume x 1, Phones volume x 1, Power switch x 1 • Phones x 1 • Indicators: Overload x 8, level x 2 (right x 1, left x 1), Power x 1 • Dimensions: 325(W) x 76(H) x 236(D) mm (12.8" x 3" x 9.3") • Weight: 2.2 kg (4.85 lbs.)



SPECIFICATIONS

- Controls: Gain x 6, Effect volume x 6, Panpot x 6, Channel Volume x 6, Effect Return (right, left), Master Volumes, (left x 1, right x 1), Power Switch x 1, Input x 6, Effect Send x 1, Effect Return x 2 (right, left), Output x 2 (right, left) • Indicators: Peak x 2 (right, left), Power x 1 • Dimensions: 280(W) x 60(H) x 155(D)mm (11" x 2.4" x 6.1") • Weight: 1.2 kg (2.64 lbs.)

4-CHANNEL MIXER / MICRO MIXER

BX-40 4-Channel Mixer

Even though the BX-40 is a compact and lightweight design, each channel has a 3-step input gain selector to allow use with a wide range of sound sources. An especially attractive feature is the peak indicator to help you set optimum mixing levels without distortion or noise, and to give you at-a-glance confirmation of levels.



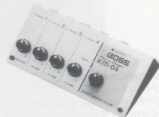
SPECIFICATIONS

- Controls: Input level select switch x 4, Channel volume x 4, Master volume x 1, Power switch x 1
- Jacks: Input x 4, Output x 1 • Indicators: Peak x 1, Power x 1 • Dimensions: 190(W) x 55(H) x 135(D) mm (7.5" x 2.2" x 5.3") • Weight: 800 g (1.76 lbs.)

KM-04 4-Channel Micro Mixer

Palm-Sized 4-Channel Micro Mixer.

The ultra-compact design of the KM-04 allows it to be placed anywhere, while its battery-powered operation allows it to be used anywhere. And yet despite its compact dimensions, the KM-04 incorporates four input channels and one output channel. In addition, the KM-04 comes with a peak indicator that helps ensure optimum settings for crisp, clear sound.



SPECIFICATIONS

- Power: 9V Battery • Current draw: DC9V 1mA
- Input sensitivity: 190mV (RMS) • Output level: 2.1V (RMS) • Input impedance: Over 22kΩ
- Output load impedance: Over 10kΩ
- Dimensions: 145(W) x 47(H) x 86(D) mm (5.7" x 1.9" x 3.4") • Weight: 350 g (0.77 lbs.)

TRAINING MONITOR/LINE DRIVER

TM-3 Training Monitor/Line Driver

The TM-3 is a compact, line driver/monitor amplifier which is ideal for practice use with guitar, bass guitar, and keyboards. It allows you to practice anytime and anywhere in privacy using headphones connected to its dual headphone jacks. When used for direct line connection with mixers or other audio equipment, the TM-3 also functions as a powerful line driver which can produce a fat sound similar to that produced through a preamp.



SPECIFICATIONS

- Power Source: 9V DC 006P, Optional AC Adaptor (PSA Series) • Current Draw: 15mA (with no signal), 50mA (max.) • Switches: Power On/Off, Mode Selector
- Controls: Level • Jacks: Stereo input (stereo mini jack), Input L (phone jack), Input R/Mono (Phone Jack) Headphones Output (Stereo Mini and Stereo Phone jacks), 9V DC in • Indicators: Power (Battery Check) • Equivalent Input Noise: -110dBm (IHF-A) • Maximum Output Level: +5dBm • Input Impedance: 1M Ω (Input L/R), 8.5k Ω (Stereo in) • Applicable Headphones: 8 Ω —100 Ω • Dimensions: 88(W) x 30(H) x 120(D)mm (3 $\frac{7}{16}$ " x 1 $\frac{3}{16}$ " x 4 $\frac{3}{4}$ ") • Weight: 160g (6 oz.) incl. battery • Accessories: Stereo cable with mini jack (50cm x 1)

Practice along with a CD or audio tape

- The built-in Stereo In jack allows you to mix the playback from a compact disc or audio cassette tape with your real-time performance.
- The Stereo input also allows connection to stereo output keyboards or stereo effects units.
- Both phones and mini jacks are provided for headphones/line outputs, allowing practice with other band members.

GUITAR AMPLIFIER

MG-10 Guitar Amplifier

The MG-10 guitar amplifier was designed and developed in Los Angeles, California—the heartland of today's contemporary music scene. Lightweight, compact, and built for durability, the MG-10 features a twin speaker design which provides a full and dynamic sound as well as three tone controls and three volume controls. The MG-10 has proved remarkably popular with amateur and professional guitarists alike.

Warp mode adds rich body to your sound

- Equipped with a built-in Warp mode for creating a thicker, distortion sound.
- A wide range of sound creation is possible using the built-in Presence control, along with Treble, Middle, and Bass equalization controls.



SPECIFICATIONS

- Output: 10W (4 Ω) • Input: -65dB/480k Ω • Speaker: 5" x 2" • Controls: Gain, Master Volume, Bass/Warp, Middle, Treble, Presence, Power On/Off • Jacks Input, Phones • Indicator: Power (15W) • Dimensions: 327(W) x 250(H) x 177(D)mm (12 $\frac{7}{8}$ " x 9 $\frac{13}{16}$ " x 6 $\frac{15}{16}$ ") • Weight: 5kg (11 lbs.)

MICRO MONITOR AMP

MA-12 Micro Monitor Amp

• The MA-12's uncolored, natural sound makes it perfectly applicable for monitoring instruments as well as for playback of audio sources.

- High and Low Tone controls to suit your preference.
- Equipped with three LINE-IN

jacks that accept audio source inputs, the MA-12 enables computer music and MTR monitoring as well as mixing sources like playing keyboards along with recorded tapes. Active Tone controls guarantee high sound quality for any application.



SPECIFICATIONS

- Output: 10 watts r.m.s. • Speaker: 4" full range • Input: Phone jack (-10dBm) x 3
- Input Impedance: Over 50k Ω • Controls: Input volume x 1, Low boost x 1, High boost x 1
- Dimensions: 132(W) x 218(H) x 165(D) mm (5-3/16" x 8-9/16" x 6-1/2")
- Weight: 2.3 kg (5 lb. 2 oz.)

MA-12V Micro Monitor Amp

• The MA-12V Micro Monitor is an active speaker that includes the features of the popular MA-12 along with the addition of a microphone input for added versatility.

• The MA-12V features the high-quality 10W amplifier that's in the MA-12. The MA-12V is also equipped with 3 inputs as well as active High and Low Boost controls.

• In terms of applications, the MA-12V is perfect for amplifying vocals while.



SPECIFICATIONS

- Output: 10W • Speaker: 4 inch full range
- Input: (MIC) -45dBm, (INST) -15dBm, (LINE) -15dBm • Input Impedance: (MIC) 1k Ω , (INST) 50k Ω , (LINE) 50k Ω • Controls: input volume x 1, low boost x 1, high boost x 1
- Consumption: 16W (117V), 28W (220V, 240V) • Dimensions: 132(W) x 218(H) x 165(D) mm (5-3/16" x 8-9/16" x 6-1/2")
- Weight: 2.3 kg (5 lbs.)

VOLUME PEDAL

FV-50L/50H Volume Pedal

Priority on sound quality lets you select between 2 models depending on input impedance level.

- When the Volume pedal comes before effect units for guitars, the FV-50H (high impedance) is your best choice. While minimizing high frequency rolloff, this volume pedal gives precise control over your volume and keeps all that great guitar sound.

- When connecting a volume pedal after the effect pedals, or for keyboards, the FV-50L (low impedance) pedal is recommended. it does not pick up external noise

and sound quality will not deteriorate even when used with long cords.

- A built-in Minimum Volume control, made famous in the FV series, facilitates control for any desired minimum volume. This simplifies setting a volume difference between lead and backing playing.
- 2-inputs/2-outputs enable direct control for stereo keyboards and 2-output effect units.
- Tuner Output jack allows tuning without generating any sound during live performances, with the pedal set to minimum volume.



SPECIFICATIONS

Jacks: Input 1, Input 2, Output 1, Output 2, Tuner Out • Controls: Main Volume (Pedal), Minimum Volume • Dimensions: 86(W) x 54(H) x 200(D)mm (3¹/₈" x 2¹/₈" x 7⁷/₈") • Weight: 400 g (14 oz)

EXPRESSION PEDAL

EV-10 Expression Pedal

(with soft case)

The EV-10 Expression Pedal provides efficient foot-controlled volume and effect adjustment when connected to Roland/BOSS's products that is equipped with an external pedal control jack. The very same heavy-duty diecast aluminum housing that's on the best-selling BOSS FV-200 and FV-100 is used for the EV-10 as well, giving it superior operational ease and durability, yet keeping the whole pedal lightweight for portability.

- A large-size foot pedal gives you greater and more accurate control because it offers stability.
- Adjustments can be made smoothly and effortlessly. The angle of the pedal and the length of travel have been carefully designed ergonomics into consideration so working the pedal remains tireless, even after hours of playing.
- A Minimum Volume adjustment is provided to allow the user to select the degree of effect and volume desired at the minimum point.



SPECIFICATIONS

Jacks: EXP. Out • Controls: Main Volume (Pedal) Minimum Volume • Dimensions: 110(W) x 65(H) x 324(D) mm (4-1/4" x 2-1/2" x 12-3/4") • Weight: 1 kg (2.2 lbs.)

VOLUME PEDAL

FV-200 Keyboard Volume (with soft case)

Stereo-type volume pedal specially designed for use with keyboards.

- Two separate stereo channels make the FV-200 ideal for use with stereo keyboards and for playing two keyboards simultaneously.
- Minimum Volume control is freely adjustable and also enables adjustment of the pedal control range.
- Built-in Center Point Setting Spring allows a normal volume level to be set so that emphasis can be added by just pressing the pedal.
- Lightweight rigid aluminum diecast body.



SPECIFICATIONS

Dimensions: 110(W)×65(H)×324(D) mm (4.3"×2.6"×12.8") • Weight: 1 kg (2.2 lbs.)

FV-100 Guitar Volume (with soft case)

Featuring a Minimum Volume Control

- The FV-100 Guitar Volume Pedal is specially designed for use with a guitar.
- The Minimum Volume control adjusts the minimum volume level when the pedal returns to the normal position and enables adjustment of the volume range.
- Lightweight rigid aluminum diecast body.



SPECIFICATIONS

81 Dimensions: 110(W)×65(H)×324(D) mm (4.3"×2.6"×12.8") • Weight: 1 kg (2.2 lbs.)

CHROMATIC TUNER

TU-12P Chromatic Tuner

The TU-12P Chromatic Tuner is an ultra-compact, lightweight, yet full-featured tuner allowing it to be easily slipped into a pocket. Although small, this tuner incorporates all the latest BOSS tuning technology. It will allow concert pitch adjustments to be made in 1Hz increments from 440Hz to 444Hz. Even a sensitive condenser microphone has been built-in to facilitate the tuning of acoustic instruments. The TU-12P's LCD display also indicates the octave display level.

- Along with conventional tuning methods utilizing an input jack and the condenser microphone, the TU-12P enables cordless tuning to be performed. The end of the TU-12P with a built-in pickup is placed close to an electric guitar's pickup, allowing the TU-12 to directly detect string vibration. There's no need to bother with cords. Turning down the guitar's volume will let you tune instantly. (Please note however that cordless tuning is not possible with classical or folk guitars that are not equipped with pickups or with guitars equipped with piezoelectric pickups.)



SPECIFICATIONS

• Power: 3V DC, CR2032 manganese-lithium battery x 1 • Tuning Range: 5 octaves (C₁ = 32.7Hz to B₅ = 987.77Hz) • Accuracy: ± 1 cent • Oscillator: Quartz (3.579545MHz) • Standard Pitch: 440 to 444Hz, 1Hz step • Jack: Input • Dimensions: 147(W) x 18(H) x 25(D) mm (5-13/16" x 11/16" x 1") • Weight: 45 g (0.01 lbs.)

CHROMATIC TUNER

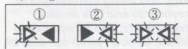
TU-12 Chromatic Tuner (with soft case)

The TU-12 Chromatic Tuner fully automates tuning adjustment through a revolutionary digital processing system, thus eliminating adjustment of the switch for each note to be tuned. When set in the chromatic mode, tuning can be done by simply playing the instrument. The TU-12 is also equipped with two triangular LEDs that light up when a perfect pitch is achieved in order to speed up the tuning process. In addition, the Pitch button permits the TU-12 to be set at different concert pitches between 440Hz and 445Hz (in 1Hz step). The sweep meter has indications for the range between -50 cent and +50 cent. The world's best-selling tuner, the compact and high-performance TU-12 is ideal for use with all types of guitars, including bass guitars.

- The world's TU-12 automatically reads and displays the note being played and its pitch.
- In addition to the chromatic tuning mode which permits fully automatic tuning, the TU-12 has a guitar mode which is convenient for tuning after replacing guitar strings.
- The highly-sensitive built-in condenser microphone makes the TU-12 ideal for acoustic instruments.

- Input and output jacks make it possible to connect all types of electric guitars, including bass guitars, to the unit for quick tuning during live performances.
- Two triangular-shaped LEDs provide at-a-glance indication of which direction the musician must adjust the instrument in order to become in tune. Both LEDs light up when the instrument is in perfect tune, facilitating tuning even in dark locations or from a distance.

- The TU-12 incorporates a sweep meter that is specially designed to facilitate optimum tuning.
- The TU-12 also incorporates a battery indicator which indicates the amount of battery power remaining.
- Compact, lightweight design: Only 170g.



1. Lower pitch
2. Higher pitch
3. Perfect pitch



SPECIFICATIONS

Power: 9V Battery, AC Adaptor (PSA Adaptor) • Current draw: 7mA (LED off), 20mA max. • Tuning range: C1-B5 • Accuracy: ± 1 cent • Oscillator: Quartz (3.579545MHz)
• Built-in microphone: Electret condenser microphone • Dimensions: 145(W) x 35(H) x 53(D) mm (5.8" x 1.5" x 2.1") • Weight: 170 g (0.37 lbs.)

CHROMATIC TUNER

TU-12H Chromatic Tuner (with soft case)

The TU-12H is an enhanced version of the TU-12, the world's best-selling chromatic tuner.

The TU-12H features the TU-12's easy-to-use automatic functions and superior performance, plus an expanded tuning range of C₁ to B₆. With the TU-12H, instruments of all frequencies, from wind and string instruments to keyboards and folk musical instruments, can be accurately tuned. Concert pitch can also be automatically adjusted within 440 and 445Hz in 1Hz step (with a -50—+50 cent variable pitch range on the sweep meter).

● Fully-automatic read-in and display of the note being played and its pitch eliminates the need for adjusting a switch, thus providing

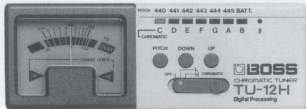
extra convenience to players even when using both hands to play.

● Covering a frequency range from that of a B^b bass tuba to a B^b clarinet or flute, the TU-12H is ideal for eliminating instability in both high notes and long tones.

● With string instruments, the TU-12H is effective not only in the tuning of violins, violas and cellos, but also as an aid in mastering the correct fingering positions, i.e. when learning scales.

● The TU-12H features a compact, lightweight design for easy portability.

● The sweep meter is designed to ensure optimum tuning. Together with a series of LEDs, this sweep meter ensures more precise tuning.



SPECIFICATIONS

Power: 9V Battery, AC Adaptor (PSA Adaptor) • Current Draw: 9V DC, 7mA (LED Off) to 20mA (max) • Tuning range: C₁ to B₆ • Pitch accuracy: ± 1 cent • Standard oscillator: Quartz (3.579545MHz) • Concert Pitch: 440Hz to 445Hz, 1Hz step • Dimensions: 145(W) x 35(H) x 53(D) mm (5.8" x 1.5" x 2.1") • Weight: 170 g (0.37 lbs.)

TU-12S Chromatic Tuner

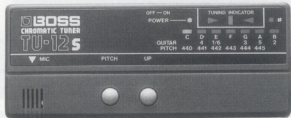
The TU-12S is more compact, as well as being more attractively priced than the best-selling TU-12 tuner, but includes the very same high performance and ease of use that the higher-priced tuner offers.

Switching operations are unnecessary, making rapid and accurate tuning easy to perform, with the note name and pitch automatically detected while the instrument is simply being played. Red and green LED tuning guides are featured for quick, at-a-glance confirmation of the desired tuning.

● The TU-12S can also be adjusted for concert pitch between 440 to 445Hz in 1Hz increments.

● Even though the TU-12S is attractively priced, it also manages to feature a sensitive built-in condenser microphone just like the TU-12 to make it easier to tune acoustic instruments.

● The TU-12S is equipped with the same efficient red and green LED indication system that is on the more expensive TU-12. The red LED lights up when the pitch is too high or low, and the green lights up then the tuning is correct. Just by watching the LEDs, you can tune quickly and accurately.



SPECIFICATIONS

Power: 9V Battery, AC Adaptor (PSA series) • Current Draw: 15mA (max.) • Tuning Range: C₁ (32.70Hz)—B₆ (987.77Hz) • Pitch Accuracy: ± 1 cent • Standard Oscillator: Quartz (3.579545MHz) • Concert Pitch: 440 to 445Hz, 1Hz Step • Dimensions: 129(W) x 27(H) x 52(D) mm (5-1/16" x 1-1/16" x 2") • Weight: 120 g (0.26 lbs.)

DR. RHYTHM

DR-220A/E Dr. Rhythm (with soft case)

Newest rhythm machines featuring built-in digital sound sources.

- The DR-220A features 11 different acoustic drum sounds produced by digital sources, while the DR-220E is the same, except that the drum sounds are electronic drum sounds. Either model delivers quality digital sounds.
- The DR-220A/E is available with 64 rhythm patterns (32 preset and 32 programmable), making it easy to play a maximum of 256 rhythm pattern measures continuously.
- Rhythm patterns can be

programmed by either step writing or tap (real-time) writing.

- The built-in Trigger In/Out jacks allow the DR-220A/E to be simply synchronized with a trigger signal from the other rhythm machines or another Dr. Rhythm unit.

DR-220A

DR-220E

Bass Drum	Electronic Bass Drum
Snare Drum	Electronic Snare Drum
Low Tom	Electronic Low Tom
Mid Tom	Electronic Mid Tom
Hi Tom	Electronic Hi Tom
Rim Shot	Cow Bell
Hand Clap	Slap
Open Hi-Hat	Open Hi-Hat
Closed Hi-Hat	Closed Hi-Hat
Crash Cymbal	China Cymbal
Ride Cymbal	Cup



SPECIFICATIONS

- Power Source: Batteries (UM-3 x 4), AC Adaptor (PSA series) • Memory: 32 Preset Rhythm Patterns, 32 Programmable Rhythm Patterns, 8 Songs (each 128 measures long) • Pattern Writing Methods: Step Write, Tap Write • Tempo: 40 to 250 beats per minute • Jacks: Output (1/4" Phone jack), Headphones (Mini Phone jack), Rim Shot Trigger Out (Mini Phone jack), Trigger In (Mini Phone jack), 9V DC In • Dimensions: 239(W) x 30(H) x 75(D)mm (9-7/16" x 1-3/16" x 2-15/16") • Weight: (with batteries): 350 g (12 oz.)

DR. BEAT

DB-66 Dr. Beat (with soft case)

Practice rhythms with the eye and ear using the Tap key.

- Equipped with an accurate quartz electronic metronome, correct tempo setting is immediate with the built-in display. Rhythm tempo and beat are monitored through a built-in speaker and 2 LEDs.
- Tap the Tap key in time to the music to get an instantaneous readout of the music's tempo.
- Sets beat at 0, 1, 2, 3, 4, 5 or 6 beats per measure with a chime at the first beat.

- With 4 basic rhythm units, you can practice just about any rhythm—from syncopation to 8-beat to complex time signatures by making use of the individual level controls.
- The tempo can be set exactly at any point between 35 to 250 quarter note beats per minute with the Up/Down switch.
- Reference signal set at A4 (440Hz) to allow instrument tuning.



SPECIFICATIONS

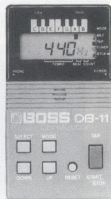
- Power: 9V Battery, AC Adaptor (BOSS PSA series) • Current draw: 9V DC, 9mA (in the stop mode) • Tempo: 35 to 250 beats per minute • Tempo accuracy: $\pm 0.15\%$ • Beats: 0, 1, 2, 3, 4, 5, 6 • Tuning note: A (440Hz, ± 0.2 cents) • Rhythm indicators: Audio beep and dual LEDs • Controls: Rhythm volume x 4 (J, J, J, J), Beat level, Total volume • Switches: Beat, Down, Up, Start/Stop (also functions as the Tap switch), Mode • Jacks: Headphones (Mini Stereo), AC Adaptor • Dimensions: 170(W) x 33(H) x 96(D)mm (6¹¹/₁₆" x 1³/₁₆" x 3³/₄") • Weight: 320 g (11 oz) without battery • Accessory: Soft case

MUSIC CONDUCTOR

DB-11 Music Conductor

The DB-11 Music Conductor contains the 4 essential functions for performing and practising—metronome, tap, tuner and stopwatch—all in a compact package which slips into your pocket. This handy unit is available in 4 attractive colors. No musician should be without one!

- **Metronome Mode:** A tempo can be set anywhere between 35 and 250 quarter-note beats per minute, with beat settable from 0–6 beats per measure. 4 types of basic beats are provided.
- **Tap Mode:** Tap the key in time with the music's tempo, and the tempo will be displayed on a real-time basis. Then by selecting the Metronome mode, the metronome function can be initiated at the tempo displayed and the original beat.



SPECIFICATIONS

Power: DC 6V, CR2032 manganese-lithium battery x 2 • Battery life: 150 hours (continuously used in the Metronome Mode at the tempo of 100 beats per minute) • Metronome mode: Tempo (35 to 250 beats per minute), beat (0, 1, 2, 3, 4, 5, 6), rhythm (♩, ♪, ♫, ♬), accuracy (± 0.1%) • Tap mode: Tempo (35 to 250 beats per minute with high/low indication), Beat (0, 1, 2, 3, 4, 5, 6) • Tuner mode: Note range (C₄ to B₄, chromatic), standard pitch (438 to 445Hz, 1Hz steps), accuracy (Within ± 1 cent, 0.06%) • Stopwatch mode: Time range (0 to 59 minutes 59.99 seconds) • Display: Liquid crystal display • Tempo indicator: LED x 2 • Speaker: Piezo electric speaker • Switch: Power • Buttons: Mode, Select, Up, Down, Reset, Start/Stop (Tap) • Jack, Headphones (Monaural Mini Jack) • Dimensions: 49(W) x 18(H) x 84(D) mm (1-15/16" x 1-1/16" x 3-5/16") • Weight: 51 g (2 oz.)

DIRECT BOX

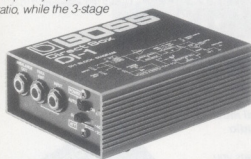
DI-1 Direct Box

Lets you interface virtually any high-impedance electronic instrument to the low-impedance line-level inputs of PA or multi-track recording mixers.

- The DI-1 matches the high impedance of instrument outputs (unbalanced phone jacks) to line level (balanced XLR connectors) for connecting a musical instrument to a mixer.
- Active circuitry ensures a wider frequency response and better SN ratio, while the 3-stage

input level attenuator lets the DI-1 match your instrument precisely.

- The balanced output is equipped with a Phase Polarity switch and a Ground switch to cut the ground line between the input and output, while an unbalanced output lets you use the DI-1 as a buffer.
- Built for professional use, the DI-1 is attractively priced to let amateur musicians apply professional techniques to their music-making.



SPECIFICATIONS

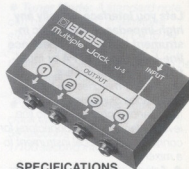
Power: 9V Battery, Phantom Power (24V to 48V DC) • Input Level: –20dBm • Input Impedance: 4.7MΩ/37kΩ/33kΩ • Maximum Input Level: +45dBm at 1kHz • Output Load Impedance: Over 200Ω at balanced output, Over 10kΩ at unbalanced output • Output Level at –20dBm input: –18dBm into 600Ω load at balanced output, –20dBm into 50kΩ load at unbalanced output • Frequency Response: 20Hz to 40kHz (±0.5 dB) • Residual Noise: –110dBm or less (IHF-A) • Auto Power Function: Automatically cuts the power after the input level is below –50dBm during 15 minutes • Input Jack: Unbalanced • Output Jacks: Parallel, Unbalanced, Balanced • Switches: Power (Auto/On), Attenuator (0dB/–20dB/–40dB), Phase (Nor/Inv), Ground (Nor/Lift) • Dimensions 96.5(W) x 46(H) x 125(D)mm (3¹³/₁₆" x 1¹³/₁₆" x 4¹⁵/₁₆") • Weight: 480 g (1 lb 1 oz)

MULTIPLE JACK

J-5 Multiple Jack

A multiple jack for increasing the number of possible sound variations.

- The J-5 Multiple Jack allows the user to connect a single input to a maximum of four outputs.
- The J-5 is also effective for developing exciting sound techniques, including letting a single guitar simultaneously produce both a normal sound and a sound effect, thus creating a loop incorporating several effect pedals.



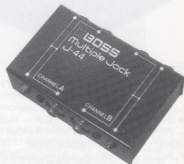
SPECIFICATIONS

Dimensions: 100(W)×38(H)×74(D) mm
(3.9"×1.5"×2.9") • Weight: 210 g
(0.46 lbs.)

J-44 Multiple Jack

A handy accessory for connecting professional musical instruments to home audio equipment.

- The J-44 Multiple Jack lets you connect any musical instrument equipped with a standard phone jack to various audio equipment that can only accept mini phone jacks or RCA pin jacks.
- The J-44 significantly simplifies on-line recording on a cassette deck of performances by a guitar or keyboard.
- The J-44 can be used with stereo applications.



SPECIFICATIONS

Jacks: Phone jack × 4, RCA jack × 2 Mini-
phone jack × 2 • Dimensions: 100(W)×
38(H)×74(D) mm (3.9"×1.5"×2.9")
• Weight: 230 g (0.5 lbs.)

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Boss Pocket Dictionary Vol. 6

Published: October 1984 (First Edition)

June 1985 (2nd Edition)

April 1986 (3rd Edition)

May 1987 (Fourth Edition)

July 1988 (Fifth Edition)

June 1989 (Sixth Edition)

Published by: Boss Co., Ltd.

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POCKET
DICTIONARY Vol.6



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RAM-1252